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ORIGINAL ARTICLES.

THREE CASES OF ACUTE ENDOCARDITIS; EVIDENCES OF DYNAMIC MITRAL STENOSIS.

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CASE I.—Lizzie H., æt. 11 years, colored, was admitted to the Charleston City Hospital, on September 15, 1885, suffering with acute rheumatism. On admission it was said that the joint trouble had subsided considerably, but the patient complained of pain in the præcordia, between the shoulders and in the head, and also of some soreness of the extremities. On percussion there was dulness over the entire left thorax. Nothing could be made out by auscultation of the heart, except that its action was irregular.

The temperature ran as follows according to the Fahrenheit scale:

September	15TH.		16TH.		17TH.		18TH.	
	M.	E.	M.	E.	M.	E.	M.	E.
Temperature . . .	103°		102.8°	103.6°	102.8°	104°	102.8°	died.

On post-mortem examination the left lung was found adherent to the chest walls, and was the seat of acute pneumonia.

The above notes have been kindly furnished by the Resident Physician, Dr. Eleazer. I saw the heart many hours after the autopsy, and found that the aortic valves were fringed with grayish, soft vegetations which projected into the aorta in the shape of a large cauliflower excrescence. The rest of the heart was, to the naked eye, healthy.

CASE II.—C. W., a seaman, 55 years old, was admitted to the Marine Ward, in the Charleston City Hospital, on September 16, 1885. The following is taken from the notes of my Resident Physician, Dr. Caldwell. The patient has had measles, scarlatina, variola, yellow fever, and malaria. He never had rheumatism, and there are doubts concerning syphilis. He was taken sick in Brunswick, Georgia, a malarious locality, about six weeks ago. His symptoms were fever, dyspnœa, and weakness. Of the former, he states that it came on at nights, and was followed by very profuse perspiration.

I may add that, on inquiry from the wife of the patient, I failed to elicit any history of chronic cardiac trouble. He had had, in fact, no sickness except malaria, for many years. It is interesting also to note that on the day of admission the patient walked considerably about the city, and came twice up two flights of stairs to my office, though, of course, with great difficulty.

Dr. Caldwell adds that on inspection he found a well-marked epigastric impulse, and a faint apex beat in the sixth interspace, one inch outside of the line of the nipple. The pulse was 128. There was moderate general anasarca, more marked in the lower extremities. These had swelled more during the day, causing him some pain. There was a continued murmur heard about the apex. The vesicular murmur was good throughout the chest. The patient was not emaciated, but very pale. His lips were bluish, and the hands quite cold. The urine contained no albumen.

Sept. 17.—I confirmed the above observations, and added the following: There is orthopnœa. The pulse is regular, frequent, of medium size, but gaseous. There is some pulsation at the base of the neck. The heart is beating rapidly, yet the following physical signs can be made out with sufficient accuracy: A continued soft roaring murmur (such as is produced in a shell), with a presystolic accentuation, is heard over the body of the heart. The diastolic portion of this murmur, which is the longest and most prominent portion, loses rapidly in intensity above the third interspace, and is lost at the second right costal cartilage. Downwards the murmur holds its own to the apex, and one inch to the left of it, and disappears rapidly beyond this point. It is heard with equal intensity along the left border of the left ventricle, at the apex, and up along the lower portion of the right border of the heart. The murmur is undulatory, and leads up to a distinct (more distinct, in fact, than anything else about the cardiac cycle) presystolic accentuation, which terminates with a feeble first sound. The latter is accompanied by a murmur similar in character to the diastolic, except that its pitch is a little higher, and that it is heard as distinctly over the body of the heart as at the aortic cartilage. The second sound is not accentuated, but is louder than the first. No murmur is heard at the back.

These signs were taken to indicate, as far as they went, the existence of mitral obstruction, and to leave in doubt the opinion between aortic obstruction and mitral regurgitation.

20th.—Patient growing worse, though he showed every morning a marked remission of the symptoms. By percussion I found that the cardiac dulness was quite distinct at the third left interspace. On the 22d the patient died suddenly of cardiac failure. The dyspnœa had gradually increased, but there was no pulmonary œdema; the pulse, however, had been steadily failing. At the base of the thorax, posteriorly, evidences had been found of some pleuritic effusion.

There were no chills, and no cerebral or other

embolic symptoms. The following is the record of the temperature, pulse, and respiration.

September	16TH.		17TH.		18TH.		19TH.		20TH.		21ST.		22D.	
	M.	E.	M.	E.	M.	E.	M.	E.	M.	E.	M.	E.	M.	E.
Temperature	. . .	101.2°	98.2°	99.5°	97.6°	99.7	98.5°	101.6°	98.2	100.6	97.8°	. . .	94°	
Pulse	. . .	120	110	108	108	120	114	120	114	140	116	. . .	102	
Respiration	. . .	32	35	44	32	40	42	36	40	44	40	. . .	45	died.

Post-mortem made fourteen hours after death. *Thorax:* Both pleural cavities contained some passive effusion. There was very little congestion of the lungs. *Heart:* There was a slight increase of pericardial fluid. The heart weighed sixteen ounces and a half. The increase of volume affected almost exclusively the left side, both auricle and ventricle. The muscle was of good color, but flabby. The right ventricle contained a large buff-colored clot which extended into the auricle and pulmonary artery. The tricuspid and pulmonary valves were healthy, and the right ventricle was but little dilated, if any. Its wall measured nearly one-quarter of an inch in thickness. The left ventricle contained a similar clot, smaller in size, and, in some places, still blood-colored; it extended into the auricle, the aorta, and coronary arteries, but was not unusually adherent. The left ventricle was dilated, and its wall measured five-eighths of an inch in thickness. The anterior leaflet of the mitral valve was somewhat thickened at the base, but its border was apparently healthy. The border of the posterior flaps was slightly thickened, and the valve did not appear sufficient to close the enlarged auriculo-ventricular opening in the dead heart, but was probably competent during the systole.

The aortic valve was the seat of the principal lesion —an extensive ulcerative endocarditis.[1] The left flap had its internal or right half completely destroyed, so that the external half hung from the outer portion of its line of insertion only. The right flap hung loose at both ends—that is, both extremities of the leaflet were destroyed, and what little was left of the border was thickened, ragged, and soft. The ulcerative process which destroyed the line of union of the right and left leaflets, extended on to the wall of the aorta, involving the inner half of the left sinus of Valsalva up to the mouth of the corresponding coronary artery. The right sinus was free from ulceration, but its valve, as stated above, was the one most seriously involved. A shred of this valve, still holding by its base, lay over, and was slightly adherent to the posterior or intercoronary leaflet. The latter was the most complete of the three, but was perforated near its right extremity, and almost, if not completely so, about the middle near the border. All the torn and ulcerated surfaces were very ragged, and the tissues concerned were quite soft. These surfaces had a reddish-gray color, with here and there a dark spot, apparently of clotted blood, especially in the last-named leaflet. The ulcers were not covered with distinct vegetations. On the ventricular aspect of the semilunar valves, and on the anterior wall of the left ventricle, for a short distance down from the aortic ring, a few warty vegetations, not larger than a pin's head, were found firmly attached to an otherwise apparently healthy endocardium. The arch of the aorta was slightly thickened, and some whitish mottling of atheroma was discoverable through the endothelium. The *spleen* was double the normal size. Its consistency was increased, and the capsule was thickened. The color was rather light and grayish. The trabeculæ were prominent. There were no embolic infarctions. The *liver* was of normal size, but its surface, especially towards the anterior border, was marbled by depressed and grayish contracting acini. The capsule of the *kidney* was slightly adherent, and the glandular structure somewhat indurated. Each kidney contained two urinary cysts, but no embolic infarctions.

This case was supposed to be one of chronic valvular disease with malarial cachexia, and rapid breaking down of the compensatory hypertrophies. It turned out to be one of acute malignant endocarditis, superinduced by malaria in the course of a chronic valvulitis. In the paper of Dr. Osler,[1] these two, malaria and chronic valvulitis, are considered amongst the etiological factors of malignant endocarditis, and they were both present in my case. As to the chronic valvulitis, the autopsy gives unmistakable evidence of its existence. There is no doubt that the man had aortic incompetency for some time previous to this attack; that the train of changes attendant upon this lesion was gradually developing; and that the absence of subjective symptoms, previous to this attack, was due to the compensatory hypertrophy and dilatation of the left ventricle.

In regard to the acute process which thus brought to a speedy and fatal termination the other more chronic changes, our knowledge is far from complete. A certain number of cases are being separated by pathologists from the group of acute endocarditis, and a subsection is being built up, which is designated malignant endocarditis; but the line of demarcation is not yet quite clear. I do not know that it has been determined whether the group is to stand on etiological or anatomical grounds. The etiological question involves the study of certain microörganisms which have been found in connection with the endocardial lesions. Anatomically the lesions of acute endocarditis are divided into ulcerative, vegetative, suppurative, and sclerotic. It is true

[1] In describing the aortic flaps I shall follow that nomenclature which designates two of them, anterior, one of which belongs to the right sinus from which the right coronary artery springs, and is called the right flap; the other belongs to the left sinus, from which the left coronary artery springs, and is designated the left flap. The third is termed posterior, or, better still, intercoronary, because its sinus gives origin to no coronary artery, and lies, of course, between the other two. By adopting this nomenclature, I do not mean to accept it as the most accurate, but it appears to me to be the most convenient for clinical purposes. As to its anatomical accuracy, it may be said of it, that it has the support of the older anatomists, and of Henle, and others, amongst the the moderns. The opposite view is ably defended by Sibson in Reynolds's *System of Medicine*. It is to be hoped that one or the other will be definitely adopted, to avoid confusion.

[1] Gulstonian Lectures on Malignant Endocarditis, by William Osler, M.D., THE MEDICAL NEWS, March 21, 1885.

that the latter is a chronic form, but there may be peculiarities in the acute process which lay the foundation for sclerotic changes subsequently. The specimens from my two cases illustrate the vegetative and the ulcerative forms.

I proceed now to analyze the physical signs of Case II. They demonstrate the existence of a dynamic auricular systolic murmur.

I shall dismiss, first, a consideration of the second sound, which was evidently produced in the pulmonary valve; and, secondly, I shall dismiss the feeble ventricular systolic murmur by stating that there was nothing found in the necropsy to warrant the opinion that the murmur was mitral regurgitant; I conclude, therefore, that it was aortic systolic.

The diastolic murmur deserves more study. I have just mentioned the feeble ventricular systolic murmur. Now, if the ventricle was capable of producing only a feeble murmur when driving a large volume of blood forwards over the inequalities of the aortic opening, we should not be surprised to find that the arterial systole would fail to produce any murmur when driving only a portion of that blood back into the ventricle. And that it did fail to produce any audible bruit, is shown by the physical signs, for I believe it will be admitted that there was no aortic regurgitant murmur. The reason for this may be further enlarged upon thus: The communication backwards and forwards between ventricle and artery was so free, the difference of blood pressure between the two localities was so little, that the velocity of the backward current towards a ventricle which never emptied itself completely, was not sufficient to produce a murmur. The murmur was then, as indicated by the physical signs, an auricular systolic murmur, occupying the whole of the diastole, and presenting a presystolic accentuation at the end. How was this murmur produced? Let us consider the position of the mitral valve during the diastole in this particular case. The breakwater of the aortic valve had been removed, and the mitral valve was shut down by the recoil of the arterial pressure. The bicuspid, in other words, did the work of the semilunar valves, and kept the reflux of blood from rushing back from the efferent to the afferent cavities of the heart. The mitral valve was closed, therefore, and the blood driven through its long chink by the hypertrophied auricle, produced the diastolic presystolic murmur. This murmur was heard along the ventricular borders, because the sonorous current was not directed straight against the apex as in organic stenosis, but was driven between the chordæ tendineæ, in a direction radiating towards the borders of the ventricle.

It is stated in the notes that the murmur was undulatory. My recollection on this point is not quite clear, and, indeed, I suppose that at the bedside it would have been difficult to determine whether the phenomenon belonged to the whole cycle—that is, whether it was produced by the different elements of the continuous murmur described, or whether it belonged to the diastolic presystolic only. However, it occurs to me, that if the heart were beating slowly this undulatory character should be noticeable in all mitral direct murmurs produced in the manner I have described. This attribute would be an expression of the oscillatory movements of the arterial pressure.

I find in Dr. Flint's treatise[1] the only distinct recognition of the existence of this mitral functional stenosis with which I have met. The same mechanism is evidently referred to in the account of Case 112, in Hayden's treatise on the *Diseases of the Heart*. But it seems to me that its importance must have been overlooked, and I take it that it should be recognized as an important element of prognosis in cases of aortic insufficiency. I believe the murmur in question is frequently present in cases of the latter disease, and that it accounts to a great extent for the transmission downwards of aortic regurgitant murmurs. It is a soft murmur without marked individuality as to quality, and often does not appear as a distinct murmur, but becomes consonant with the aortic regurgitant, intensifies it, and makes it more clearly audible at the apex, and ensiform cartilage than it would be otherwise.

Dr. Balthazar Foster, it appears, has demonstrated that when the posterior or intercoronary leaflet of the aortic valve is defective, then the aortic regurgitant murmur is transmitted towards the apex, because the recoil current, in such cases, trends that way. But I believe the fact to be that in such cases the regurgitant murmur is more apt to press directly upon and close the mitral valve, thereby giving rise to the auricular systolic murmur, which, as I have said, contributes greatly to the extension downwards of aortic murmurs. Whatever the explanation, the point as to diagnosis seems to be well taken; but not so as to prognosis. For Dr. Foster further maintains, that in such cases the prognosis should be more favorable, because that leaflet is affected which is not concerned directly in aiding the coronary circulation. In other words, he argues that the cardiac nutrition is better kept up than when the right or left leaflet is affected; these latter being instrumental in directing the stream of blood into the corresponding coronaries. But I hold with Dr. C. Hilton Fagge,[2] that the prognosis is rather more unfavorable in cases in which the murmur is transmitted towards the apex; and one of the reasons it appears to me now, is that the functional mitral stenosis is apt to develop earlier in these cases; and this functional mitral obstruction is the first halt or backward step of the blood current, from the ventricular or arterial side to the auricular or venous side, the first step leading down the steep to venous stasis, asystole, and death.

Let us not say then with Fothergill: "The day of the prominence given to the presystolic murmur will ere long be over," but on the contrary let us be watchful and studious of its import as seen in this new light.

Let us not make light of dynamic murmurs. Walsh leads us astray when he states that they differ from organic murmurs, in that the latter are attended with

[1] A practical treatise on Diseases of the Heart, by Austin Flint, M.D., page 207, second edition. Consult also an article on Cardiac Murmurs, in The Amer. Jour. of Med. Sciences for June, 1862, by the same author.

[2] Article on diseases of the valves of the heart, in Reynolds's System of Medicine, vol. iv. page 645.

other symptoms of cardiac disturbance, and alterations in size of the heart. This is incorrect. Many dynamic murmurs are accompanied with such concomitant alterations, due, it is true, to disease elsewhere in cardiac mechanism; but the murmurs are, nevertheless, indicative of conditions which aggravate the coexisting lesions.

Together with the auricular systolic murmur that I have been describing, we should have dilatation and hypertrophy of the left side of the heart, accentuation of the second pulmonary sound, and a feeble first sound. A complete absence of the first sound has been observed in some cases of aortic incompetency, in which the mitral valve was subsequently found healthy. These cases have been used as arguments against the valvular theory of the first sound. But if we consider that, under the circumstances in question, the ventricular systole finds the mitral valve already stretched by the arterial reflux, we can understand how their further closure at the moment of the systole may be noiseless, so far as the left ventricle is concerned: a feeble systole of the right ventricle will account for the absence of the tricuspid element.

It is easy also to conceive how this premature tension of the mitral valve may give rise to more than one form of reduplication of the heart sounds.

I have stated that this functional stenosis is a backward step; that it may be the first step towards cardiac impotency; but I must add that, like all other retrograde movements of the heart's cycle in disease, this one also comes under the following law of cardiac pathology, namely: That there is no step tending to cardiac impotency, which may not be at some time, or within certain limits, compensatory and salutary. The functional obstruction at the mitral valve, for instance, stands as a sentinel, keeping the amount of blood that comes from the auricle within the limits of the capacity of the over-distended ventricle.

Since writing the above report I have met with the following case of simple primary endocarditis. Such has been my diagnosis, and I present, without comments, the facts in the case. As a matter of interest concerning the etiology of these cases, I should mention that there has been an epidemic of mild scarlatina prevailing in this city since the end of July.

CASE III.—Joe R., 20 years of age, a sailor, born in Germany. His father is a robust sailor, but is occasionally troubled with stiff joints and subacute rheumatic pains. The mother died of acute pneumonia. He has six brothers and sisters, all healthy. He had the Asiatic cholera when one year old, and an attack of pleurisy at the age of eleven. This disease did not last over a week. To all other questions which may suggest themselves to the reader concerning the previous health of the patient, his invariable answer is that he has always been healthy. He is not subject to colds, and has rarely had epistaxis. He is temperate, and has never had any venereal disease. He is a well-developed, intelligent young German, with a florid complexion, and a slight excess of fat. He has good teeth, and large bones in the extremities. The chest shows some transverse constriction, with depression of lower portion of the sternum.

He has been employed for some time on steamboats and in stores about Jacksonville, Florida. About four weeks before taking sick he had returned from a short visit to Germany. About the first of this October he began to work in cleaning up the building of a German Club. His feet were wet nearly all day, and he slept in a damp basement room. He was taken sick on the 13th with severe headache. This persisted, and was accompanied with pain across the epigastrium, some nausea, loss of appetite, and slight aching of the limbs. He continued his work until the morning of the 16th, when he had a severe chill. After this he went out to get a dose of oil, which he took, and, on his return, went to bed with high fever.

October 17. Evening.—He was first seen by Dr. J. J. Edwards. The bowels were loose, the abdomen was tender, the tongue quite coated, the fever high, and suspicions of typhoid fever were entertained. Pulse 112; respirations 30; temp. 103.8° F.

18th. Morning.—I was asked to see the case with Dr. Edwards. I was struck, first, by the anxious expression, the slight icteric hue of the pale skin, and the excited action of the heart, which was observable over the shirt. The apex beat was found in the fifth interspace, just inside of the line of the nipple. The impulse was vigorous, sustained, slightly tremulous, and its area was wider than normal. There was a soft diastolic murmur, which was best heard about the middle of the sternum, and which was undoubtedly an aortic regurgitant murmur. The first sound was also murmurish, but this I attributed to the excited action of the heart.

The patient's mind was clear. His face flushed some as he spoke. He complained of no pain, except that across the upper segment of the abdomen. It was not a severe pain, but more a feeling of distress. The abdominal walls were sensitive, especially towards the iliac fossa. There was no pain in the limbs, no cough, no sore throat, no abnormal respiratory sounds. The skin was dry, and its papillæ were very prominent. He had vomited once. The stool passed in the morning was liquid, and light colored. The tongue was covered with a thick grayish coating; pulse 120, respirations 25, temp. 105.4°. He was sent to the Marine Ward in the City Hospital. I ordered him gtt. xv of tincture of the chloride of iron every two hours. In the evening his condition was the same, except that the temperature had commenced to fall. He was given gtt. xx of tincture of digitalis at seven o'clock P. M., and at midnight. The iron was continued, and orders given to substitute quinine for it if the temperature fell below 102°. Pulse 122, temp. 104.4°.

19th.—The temperature at two o'clock A. M. was 99.8°, and he was given gr. x of quinine at two, at three, and at four A. M. The temperature at four was 99.6°; at six it was 99°, and the pulse 86; at eight, pulse 86, respiration 15, temp. 99.2°. He has slept none; feels better; still complains of distress across the epigastrium. He had some headache. The face is somewhat flushed; the eyes are watery, and the lids puffy. With the heart beating 87, and the patient in the recumbent posture, the following physical signs are observed: The tremulous

character of the impulse, which yesterday amounted almost to a thrill, is better described to-day as a lingering of the heart in its position against the chest-walls. The position of the apex is the same. The area of cardiac dulness commences at the fourth left rib, and is in other respects also normal. The second sound is quite feeble on both sides of the sternum, and is accompanied and followed by a soft murmur, which is better heard at the third left space than at the second right, and still better over the sternum in an oblique line between those two points. It loses in intensity when it is followed down the sternum, and is lost; but it seems to increase when followed towards the apex, where (and even before reaching it) the murmur changes completely in character, and becomes rougher and longer, filling up the whole of the period of silence, and showing a presystolic accentuation. The first period is quite loud, and free from murmur. The pulse is rather small, easily compressed, and rapidly collapsing—a pulse of aortic regurgitation, without hypertrophy. The urine contains no albumen. The iron to be continued. Evening: No change in his general condition. Pulse 86; temp. 100.5°.

20th.—Has taken this morning gr. v of quinine at six, seven, eight, and nine o'clock. The iron continued. Pulse 90; temp. 100.8°. The epigastric distress was much relieved after vomiting some greenish fluid this morning. The tongue is thickly coated in the back and centre. Near the edges there is a belt with a sharp outline of a much lighter coating. The face is less flushed. The pulse is larger and more jerking, but still receding. The icteric hue is very faint. The pulse of the carotids and subclavians is visible. Has had two liquid stools in the twenty-four hours. The two murmurs are to-day more easily separable, and I am convinced of the existence of the two lesions, aortic insufficiency and mitral stenosis. In the evening complains of headache and restlessness. Pulse 82; temp. 102°. He is ordered gtt. xx of tincture of digitalis at eight P. M. and at two A. M. Is to take also gr. x of quinine at four, six, and eight A. M. to-morrow.

21st.—The quinine has been taken, and the iron is continued. Pulse 86; temp. 101.4°. Very little sleep, but feels much better. The tongue is cleaner. The bowels have not been moved. The urine is decidedly acid, and of a light orange color. It has a specific gravity of 1.023. It contains no albumen, and presents nothing abnormal on microscopic examination. The cardiac area of impaired resonance commences at the third rib. The second sound is more pronounced at the left than the right border of the sternum. The murmur of the second sound is very soft, and is rapidly lost in all directions from the left half of the sternum, at the level of the third interspace. The presystolic murmur is becoming rougher. Evening: Pulse 70; temp. 100°.

22d.—Pulse 64; temp. 98.2°; xx gr. of quinine in the morning, and the iron continued every two hours. Evening: Pulse 62; temp. 98.2°.

23d.—Morning: Pulse 60; temp. 97.5°. Evening: Pulse 58; temp. 98°.

24th.—Morning: Pulse 50; temp. 97°. Evening: Pulse 56; temp. 97.5°.

For the use of the tincture of iron I have no better reason to give than this: I use it with success in cases of erysipelas and diphtheria; and I thought that, perhaps, it would tend to consolidate the coagula, and thereby prevent embolism. This suggestion I received some years ago from Dr. J. L. Ludlow, of Philadelphia, as appropriate to the treatment of embolism in general, rather than that treatment which aims at dissolving the coagula.

27th.—The favorable condition continues. The quinine has been discontinued. The treatment now consists of rest in the horizontal position, and iron three times a day. I shall watch the development of the cardiac hypertrophy.

CHARLESTON, October 27, 1885.

AN UNUSUAL CASE OF PHARYNGEAL FISTULA.

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THROUGH the kindness of Dr. W. E. Hughes, I am able to report this case, which is a curious one for several reasons, which will become apparent when the following history is read.

CASE.—A. E., æt. 5 years. Boy. Came to the dispensary of the Children's Hospital with the history that he had fallen on his head from a chair about two years ago, and that this accident was soon followed by disease of the cervical vertebræ, which at present has resulted in fixation of the head to a great extent. Four months ago he was taken to the orthopædic dispensary of the University Hospital for this fixation, which seems to have caused the mother considerable alarm. Soon after this the mother noticed a slight puffiness on the right side of the neck near the sterno-mastoid muscle, and within a few days there was a sudden discharge of pus from the mouth. The swelling at the side of the neck increased in size, and finally opened of itself with a considerable escape of pus.

No sooner had the pus begun to stop than the mother noticed that a portion of the food which he swallowed frequently escaped through this opening in the neck. She states that this escape of food is not constant, but occurs only at varied intervals, and from a series of cross-questions it seems probable that the fistulous tract is at least partially closed on certain days by granulations, which at other times are destroyed by some motion of the head, thereby making the tract again patulous.

At the time that I examined the boy the mother stated that no food had escaped through the fistula for several days, and a drink of water taken at my direction passed safely down without any part of it appearing at the external opening. A rough examination of the larynx with the aid of an ordinary tongue-depressor, the only instrument I had at hand, revealed nothing, probably because the internal opening was too low down to be seen without instrumental aid. At my request, she promised to take the child to the dispensary for the diseases of the throat and nose at the University Hospital on the next day, in order that a thorough examination might be made. Unfortunately, the next day was stormy and she did not appear. I was also unfortunate enough to mis-

lay her address, so that I am unable to give a more thorough description of this unique case.

Although many standard works on diseases of this portion of the body were consulted, the writer was unable to find any account of a similar condition to the one before us. Many of these works mentioned congenital and traumatic fistulous openings of the pharynx or œsophagus, while others mentioned the formation and subsequent rupture into the pharynx of abscesses associated with disease of the cervical vertebræ, but none of them had any record of pharyngeal or œsophageal fistula following cervical caries.

This case seems to the writer to be of interest for the following reasons:

First. Its origin from cervical disease, produced by a fall.

Second. The entire absence of any sign of congenital fistula, generally known as bronchial fistula.

Third. The almost simultaneous rupture of the abscess into the pharynx or œsophagus, and on the side of the neck.

Fourth. The unusual position of the external opening, viz., under the sterno-mastoid muscle, instead of near the thyroid cartilage, which is the common region for the external opening in these fistules.

Last, but not least, it is an interesting point that the pus should have escaped into the pharynx while the child was awake, since the presence of an abscess in that region was not thought of, and no precautions against suffocation during sleep were taken.

The position of the external opening, only about one and one-half inches below the angle of the jaw, seems to me to point to the abscess being post-pharyngeal, rather than post-œsophageal, since the food would hardly pass outwards and *upwards*, even if propelled by considerable movement of the muscles of the neck, which, in this case, is very unlikely owing to the fixation of the head on the trunk by the cervical disease. The opinion that the internal opening is pharyngeal gains strength when the fact is remembered that the escape of food is almost simultaneous with the act of digestion, which would be an impossible occurrence if any muscular movement was required to force the food upwards.

NOTE.—Since writing the above, Dr. Reeves informs me that the patient was eventually taken to him at the University as requested, and that a very thorough examination of the pharynx with the laryngoscope failed to discover any internal opening in that region. As *all* the former symptoms continue, and as the child is failing fast owing to septic poisoning, and the disorder of digestion consequent on swallowing large quantities of pus, the writer believes with Dr. Reeves that the internal opening must be in the œsophagus.

GANGRENE OF THE SCROTUM FOLLOWING EXCISION OF THE INGUINAL GLANDS; AN ACUTE REFLEX TROPHIC LESION.

BY W. B. PLATT, F.R.C.S. (ENG.),
OF BALTIMORE.

I WISH to call attention to the occurrence of localized gangrene of the scrotum after the excision or scraping out of enlarged inguinal glands, and to express my belief that when this takes place it is due to a definite lesion of trophic nerves.

Two cases of gangrene of the bottom of the scrotum following excision of the inguinal glands, have come under my immediate observation, and Dr. Tiffany kindly gives me notes of his own case in which this occurred, making three altogether.

CASE I.—While House Surgeon in the Boston City Hospital in September, 1879, an Irishman, æt. about 40, was admitted, suffering with chronically indurated inguinal glands in the left groin of two years' standing. They had never suppurated, and caused inconvenience only by their size and occasional pain felt in them. There was no evidence of secondary syphilis, and no history of a skin eruption. The patient said he had a sore (probably a chancroid) a short time previous to the glandular swelling. At the time of the operation he had, however, a small indurated lump on the preputial margin, as large as half a peanut-kernel. This had existed but a short time. The man was tremulous, suffering from chronic alcoholism. In the left inguinal region was felt a hard, oval, immovable mass, about two and a half inches in its long diameter. The skin was slightly reddened over it. The patient being etherized, Dr. Geo. Gay made an incision in the long axis of the swelling, parallel to Poupart's ligament, and removed two connected lumps the size of pigeon's eggs. On section these were seen to be gray, with numerous yellow foci, the size of canary seeds, scattered throughout their substance. The wound was brought together by sutures, a drainage-tube left in, and carbolic gauze dressings applied.

The entire operation was done under strict antiseptic precautions. Elastic webbing was applied over all to retain the dressings in place. The wound itself healed with little redness, swelling, or discharge.

The only noteworthy fact in this connection is that the bottom of the scrotum on the left side became swollen and red on the second day; on the third and fourth days an oval, sharply defined dark patch, one and a half to two inches long, was to be seen at this place. This eventually sloughed away with considerable discharge of pus, and the resulting gap healed rapidly by granulation. The erythema of the scrotum extended to the antiseptic dressings, but not under them.

CASE II.—Patient was a young white male, at Bayview Hospital, Baltimore. When I came on duty the patient had been operated on, two weeks previously, by my predecessor, who had scraped out his inguinal glands on the left side, and had slit up the meatus urethræ. Within a few days after the operation on the glands, the bottom of the scrotum became red, swollen, and tender. Two sharply defined dark patches appeared, one of which extended across the median line of the bottom of the scrotum. The sloughs were separated by a bridge of skin on the surface, although connected beneath. In removing them I withdrew a large part of *both* sloughs, by drawing upon one of them. The resulting gap healed well by granulation. In this case no attempt had been made to use antiseptics. The testicles were not exposed in either case.

CASE III.—Dr. Tiffany (to whom I mentioned my views last April) informs me that in the spring of

1884 he spooned out the enlarged inguinal glands in the right groin of a young male patient at Bayview Hospital, Baltimore. Several days later the scrotum at its lower portion became thickened, red, and painful, a large patch of the swollen tissues, four inches in diameter, speedily presented the appearance of gangrene, which extended somewhat beyond the median line. The slough soon separated, and the wound healed by granulation.

The only elements these three cases have in common are, the operation upon the inguinal glands, and the resulting gangrene of the bottom of the scrotum, with the usual attendants upon the process of repair.

In supposing such a relation as that of cause and effect, between excision (or scraping out) of the inguinal glands and gangrene of the scrotum, we may consider.

1. Phlegmonous erysipelas.

2. Gravitation of septic fluids, or direct extension of inflammation from the groin to the scrotum.

3. Interference with the circulation, by obstructing the free flow of blood to or from the part.

4. An acute reflex gangrene from intense irritation of trophic nerves.

1. Phlegmonous erysipelas is a loose term frequently applied to several other diseases. Simple cellulitis has often been so denominated.

I especially noted at the time of the first operation, that the redness did not begin at the *wound* but at the scrotum, as the healing of the wound in the inguinal region was quite normal in every way. The erythema did not even extend beneath the gauze dressings. The gangrene could not be attributed to the carbolic spray, since that was not employed in the two other parallel cases. The snipping of the meatus probably had no connection with the gangrene, since that was done only in Case II.

If by erysipelas we may understand inflammation, gangrene, or sloughing, then we agree to the term; there was no erysipelas elsewhere in the wards in Case I., and no other patients were affected, although dressed with the same instruments, and by the same persons as in the case in question; there was not a scratch on the spot of the scrotum where the lesion began in every case. In the other two cases there may have been erysipelas somewhere in the wards, since it is far from uncommon at Bayview, although I do not know of any. But in none of these cases did the erythema begin at the wound, but at the bottom of the scrotum; if this was erysipelas, why did the *wound* escape? why did the penis escape? where was the vesication so often seen in erysipelas, but in none of these cases? why did the inflammation remain so generally restricted to one side of the scrotum instead of invading it all? Mr. Liston[1] is quoted by Holmes, in his *System of Surgery*, as saying that "erysipelas of the scrotum may follow sores or eruptions, situated in the groins, genitals, or inside of the thighs, or in cases of fistulæ." In the latter it might follow by extension from them. The first examples can, however, be explained upon the same anatomical grounds as can our cases, if were are willing to call erythema, or dermatitis what Mr. Liston calls erysipelas.

2. Gravitation of septic fluids from the groin into the scrotal tissues, or extension of inflammation from the wound to the scrotum. The first of these suppositions assumes that there are septic fluids generated in the wound. Of this there was no evidence in any case, or that having them that they could gravitate in this way, or that having gravitated they would cause gangrene.

The ordinary inflammation of lymphatics is not prone to travel away from, but rather toward the trunk. We know that in extravasation of urine the fluid rises upon the penis, or upon the abdomen, but the groins are not invaded by the urine under the superficial fascia. We also know that quite extensive inflammation may occur in the scrotum from injury or from various causes without a resulting gangrene, although this last does occur at times apparently without sufficient cause being apparent. Why, therefore, should an operation four inches away cause gangrene when no direct connection between the wound and the gangrene, for inflammation or septic products, has been proved.

3. The inconsistency of some eminent authors, as well as the force of tradition, is well shown by Humphrey (Cambridge, Eng.), who states:[1] "The tissues of this region have no great degree of vitality, the arterial branches to it are long and delicate, and . . . . are thus easily strangulated;" while a little further we read, "The remarkable power of repair which the scrotal tissues possess . . . . is well known." The first part of the first quotation is pure assumption, while the second quotation is a fact we all admit. As a matter of anatomy, the scrotum is abundantly supplied with both vessels and nerves. The fact that the tissues are loose is absolutely no reason why they should be especially subject to gangrene. That some other tissues are dense and firm, has been advanced with more reason as a cause of the quick necrosis they undergo from strangulation of their bloodvessels.

4. An acute reflex trophic lesion due to irritation of the branches of the ilio-inguinal nerve of the groin and reflected to the terminal filaments in the scrotal tissues. It is well known that local reflex alterations of nutrition do occur from irritation of peripheral nerves—certain skin eruptions, as herpes. Some cases of acne and pemphigus clearly have this origin. Reflex œdema has been frequently observed, clinically, as well as produced in the physiological laboratory. Cases of gangrene due to reflected nervous influence have been observed by Sir William Ferguson,[2] Gubler,[3] and Grainger Stewart,[4] according to Brown-Séquard, who also states[5] that he has often seen gangrene of the ear produced by a mere prick of the medulla. He proceeds to say, "those persons who know that even gangrene may be caused by an influence of the nervous system, as rendered so probable by Dr. Ray-

[1] Med.-Chirur. Transactions, vol. xxii. p. 228. Prac. Surgery, p. 450.

[1] Holmes's Syst. Surg., vol. iii. p. 585.
[2] Lancet, vol. xiii. p. 152, 1850.
[3] Comptes Rendus de l'Société pour Biologie, 1854, p. 76.
[4] Med. Press and Circular, Jan. 10, 1866.
[5] Holmes's Syst. Surg., vol. ii. p. 210 (Eng. Ed.).

naud,[1] will not be reluctant to admit that it may be the result of a reflex influence from irritated nerves."

We know that the region of the groin and the scrotal[2] tissues is supplied by branches of the same nerve-trunk, viz., the ilio-inguinal, and that a motor reflex connection exists between the skin branches of the genito-crural nerve and the cremaster muscle. We have no good evidence that the gangrene of the scrotum is produced by the other known causes of gangrene. These two nerves are complementary to each other. Knowing that a reflex gangrene has been observed elsewhere, a reasoning by exclusion and by analogy will lead us to believe it quite probable that gangrene of the scrotum, following excision, etc., of inguinal glands, is an acute reflex trophic lesion.

MEDICAL PROGRESS.

A CASE OF SUDDEN PULMONARY CONGESTION RELIEVED BY ASPIRATION OF THE AORTA.—DR. J. DACRE, in *The Bristol Medico-Chirurgical Journal* for September, 1885, reports a case of sudden pulmonary congestion, in which aspiration of the aorta, accidentally performed, instead of aspiration of the right auricle, as intended, was followed by immediate relief.

The patient had been suddenly seized with dyspnœa, and when first seen was gasping for breath, each inspiration rattling the mucus collected in the throat and larynx, and which he was too feeble to expel.

All efforts made to relieve his condition being without effect, and he being now *in extremis*, it was determined to aspirate the right auricle. With this intention, a medium-sized needle and canula was inserted in the fourth intercostal space on the right side, close to the edge of the sternum, passed straight through the intercostal tissue until it was felt to be in the chest, and pushed in that direction for about an inch and a half. On removing the needle blood jetted out of the canula, and in about five minutes thirty ounces of blood were withdrawn.

The needle was then removed, and no hemorrhage occurring through the puncture, it was at once sealed with collodion.

The condition of the patient at once improved, consciousness returned, he breathed more readily, and was able to speak.

The improvement was, however, only temporary, and the operation was again performed for the patient's relief, this time unsuccessfully, death occurring in about forty minutes.

Post-mortem examination showed that the aspirating needle had passed immediately above the right auricular appendix and had pierced the anterior surface of the aorta about one-quarter of an inch above one of the semilunar valves.

In reference to the best locality for puncture of the auricle, Dr. Dacre thinks the fourth interspace close to the sternum preferable, as in this position by experiments on the dead body, he has found that a needle passed directly backwards, almost invariably pierces the auricle.

[1] De l'Asphyxie Locale ou Gangrene Symétrique des Extrémités, Paris, 1862.

[2] The scrotum is supplied by the two external pudics, the superficial perineal and the cremasteric arteries, and by branches of the ilio-inguinal, pudic, and inferior pudendal nerves.

THE TREATMENT OF CHRONIC BLEPHARITIS.—PANAS recommends the following preparation in the treatment of chronic blepharitis:

℞.—Hydrargyri binoxidi. . . .	gr. ½.
Vaseline	℥ijss.
Liquor plumbi subacetatis . .	gtt. v.
Ft. unguent.	

S. Apply to the eyelids morning and evening, and during the day bathe the parts frequently with an aromatic astringent.—*L'Union Médicale*, October 17, 1885.

UTERUS DIDELPHYS OR DUPLEX (?), WITH A DOUBLE VAGINA.—LITSCHKUS, *Vratsch*, 1885, No. 26, reports the case of a woman, aged twenty-nine, who first menstruated at the age of eighteen; sometimes at intervals of two or three weeks, at others, after periods of a week. Some years previous to her coming under observation she had aborted.

Examination showed the external genitals to be normal. The vagina was divided by a partition wall into a right and a left space, the right being the larger, communication between which existed at the *os uteri* by a perforation in the partition. The right-sided portion of the vagina was free, while the left, besides being shorter, was adherent above and behind, so that only with difficulty could a speculum be introduced into it.

Both vaginal divisions could be recognized by rectal examination, and also through the abdominal wall; the furrow between the two horns of the uterus could be recognized. The sound, both on the right and the left side, entered the uterus to a depth of three and four-fifths inches. The menstrual flux appeared to escape from the right side only, the os uteri of which was smoother and softer than that of the left organ, which probably was without function.

Dr. Litschkus remarks on the rarity of the cases in which diagnosis of the condition is made during life, and refers to diversity of opinion in a case reported previously by Kubasov, as to whether the condition was that of uterus didelphys, or uterus duplex.—*Centralblatt für Gynakologie*, October 17, 1885

INDICATIONS FOR CHOLECYSTOTOMY.—DR. AUGUSTUS C. BERNAYS, after a discussion of cholecystotomy, appends the following conclusions in reference to the indications under which the operation should be performed.

1. The causes which indicate an operative interference with the system of gall vessels are: *a*, jaundice; *b*, paroxysmal pain or a tumor in the right hypochondriac region; *c*, suppuration; *d*, peritonitis; these conditions to be either severally or singly recognizable, the presumable origin being biliary calculi; *e*, malignant disease.

2. Explorative laparotomy must be preferred to acupuncture or aspiration as a diagnostic measure.

3. The incision in the linea alba is preferable when there is much doubt regarding the seat of obstruction, because the large ducts can be reached much better from this incision than from the incision parallel to the free border of the ribs.

4. The escape of bile through an abdominal fistula is not injurious to the process of normal digestion. The bile is an excretion, and probably of no more use in the intestinal canal than the urine in the bladder.

5. Jaundice, when caused by an obstruction of the common duct is no contraindication to natural cholecystotomy. We may often save life by its early performance.

6. Cholecystotomy, natural and ideal, and cholecystectomy are the three operations at our service; cholecystenterostomy may be useful, but it has not yet earned a place among approved surgical procedures.

7. Ideal cholecystotomy is indicated when the bladder is normal in structure and when the gall-ducts have been cleared of obstructing calculi.

8. Natural cholecystotomy is indicated when the bladder is ulcerated or suppurating, or when there are permanent obstructions beyond reach at the time of operation.

9. Cholecystectomy should be limited to cases of otherwise incurable or malignant disease of the gall-bladder.—*The Weekly Medical Review*, Oct. 31, 1885.

A CASE OF RIGHT-SIDED CHYLOTHORAX DUE TO TEARING OF THE THORACIC DUCT.—DR. KRABBEL reports the case of a youth, 16 years of age, in whom rupture of the thoracic duct was caused by his being run over by a wagon, and was followed by chylothorax. The patient was first seen by Dr. Krabbel the morning after the accident, and appeared not seriously injured, breathing without difficulty, and complaining only of pain in the region of the sternum, and on both sides of the thorax. The external wounds were extremely insignificant, and no ribs were broken; no emphysema. The patient, though with difficulty, was able to raise himself in bed.

Percussion on the right side revealed nothing abnormal, while on the left a dull zone two inches wide existed below the scapula, and in this region the vesicular murmur was absent. Temperature 97.3° F. Respiration 76. Diagnosis was made of contusion of the thorax, and right-sided hæmothorax, due to wounding of a vessel.

The condition of the patient remained favorable, with but little variation in his symptoms, until September 3d, when, though not so well, the patient, contrary to orders, left his bed to go to stool. The nights of September 4th and 5th the symptoms became urgent, and the patient suffered from thirst and coldness of the extremities, and breathing was difficult.

Examination, made the following morning, showed percussion dulness over the entire left lung, absence of respiratory murmur, and pectoral fremitus. The percussion râle in the right half of the thorax, before as well as behind, was plainly tympanitic. The symptoms gradually increasing in severity, the patient died, apparently of suffocation.

Post-mortem examination showed all the thoracic organs to be normal, but, strange to say, the ninth thoracic vertebra was found fractured diagonally, and in this location the thoracic duct was also cut through, but little difficulty being experienced in introducing a sound into the upper and lower fragments. The œsophagus, aorta, and vena azygos were entirely normal. The most singular fact of all is, that neither the dura mater nor the spinal cord itself presented the least sign of injury, neither had there been any symptoms of paralysis manifested.—*Centralblatt für Chirurgie*, October 17, 1885.

PHYSIOLOGICAL AND THERAPEUTIC EFFECTS OF PYRIDINE IN ASTHMA AND CARDIAC DISEASE.—M. GERMAIN SÉE, in a discussion of the therapeusis of asthma, gives the following review of the general effects of pyridine—reference to which has already been made in these columns.

The best method of administration is to pour sixty or seventy-five grains of pyridine in a saucer, placed in a small chamber containing about twenty-five cubic metres, the patient being seated in a corner of the room, and thus breathing air mingled with the vapor of the drug. The *séance* should last about twenty minutes, and be repeated three times daily. The absorption is immediate, the pyridine appearing almost at once in the urine.

a. The oppression diminishes considerably, respiration becomes free, desire for air less imperious, while the heart becomes calm and regular, and the pulse preserves its rhythm and force.

b. Toward the close or after the *séance* patients experience an irresistible tendency to sleep.

During slumber, there is a marked diminution of the reflexes with conservation of contractile power; which, however, is diminished. Neither paralysis nor convulsions are produced, neither is there evidence of tremor.

c. The action of pyridine should not be compared with that of chloroform or ether. It possesses the special property of diminishing bulbar and medullary reflex excitability; and in this connection it is remarkable that such effect is not found in like degree in nicotine and atropine, both of which contain pyridine.

d. The effect of pyridine upon respiration continues for some time, and the tendency to nocturnal oppression disappears as the result of inhalations practised during the day. Patients sleep well and desire the inhalations.

e. After two or three *séances* expectoration becomes more abundant and fluid, and loses its purulent and fetid character. Mucous râles alone are heard, and these finally disappear and respiration almost regains its normal sounds. The use of the drug is attended with no inconveniences, save perhaps a slight tendency to nausea and vertigo. In some cases attacks of suffocation disappear completely; in others the effect of the drug diminishes after eight or ten days, and it then becomes necessary to combine it with the iodides.—*Bulletin Général de Therapeutique*, October 15, 1885.

DISLOCATION OF BOTH HUMERI.—GÜTERBOCK (*Berliner klin. Wochenschrift*, No. 22, 1885) reports a case of double dislocation of the humerus, which, by reason of its rarity, is of extreme interest.

The patient, an old woman, aged 86, by a fall from bed dislocated both humeri, the head of the left being more internal to the coracoid process than that of the right, which, however, was replaced with more difficulty and only after anæsthesia.

Four weeks after the accident the patient died, and post-mortem examination showed complete cicatrization of the tear in the articular capsule on each side, the only signs of the injury being a reddish cicatrix and a thickening at the seat of the injury.—*Centralblatt für Chirurgie*, October 17, 1885.

LEPROSY: ITS NON-CONTAGIOUSNESS.—The following summary of the views of physicians in Japan—as ascertained by PROF. VIRCHOW—in relation to the contagion of leprosy, is of much interest.

1. The hereditary tendency of the disease should be considered as proven; sometimes a generation escapes.

2. Infection does not occur either by marriage or by sexual intercourse.

3. No instance of a well-established case of direct contagion is known.

4. In Japan, there are no leper communities, no hospitals, further than hygienic proscriptions or ordinances relating to lepers.—*Gazette Hebdomadaire*, Oct. 16, 1885.

EPILEPSY AND HEMICRANIA.—B. SILVA (*Giornale di Neuropatologia*, Fasc. 1 and 2, 1885), in discussing the relations of epilepsy and hemicrania, while recognizing the frequency of heredity in both, calls attention to the following points of difference between the two diseases:

1. While hemicrania in the great majority of cases begins about the period of puberty, epilepsy most frequently begins at the end of childhood.

2. The attacks of hemicrania become less frequent and less intense with advancing age, and in old age often cease entirely—while, on the contrary, epileptics commonly terminate life insane.

3. That occasional causes—menstruation, mental excitement, etc., exert a greater influence in the production of hemicrania than of epilepsy. Silva's views agree essentially with those of Wagner and Struempell, who are among those who deny the essential relation between the two diseases, for the reason that the attacks in the two diseases are not similar.—*Rivista Internazionale di Medicina e Chirurgia*, September, 1885.

THE USE OF IODOL IN SURGICAL OPERATIONS.—DR. GÆTANO MAZZONI calls attention to a new chemical preparation, called Iodol. The substance is a powder of a yellow or grayish-brown color, nearly odorless and perfectly tasteless, and has an action very similar to that of iodoform.

The observations made upon its effects already exceed two hundred, and the results have been extremely favorable.

The remedy may be used in powder, suspended in glycerine as an ointment, or in dilute solution of alcohol and glycerine, the substance being entirely insoluble in water.

In venereal disease its effects have been excellent, as also in periadenitis.

In abscesses, in which necrobiosis is extensive, the beneficial effect of iodol is manifested in the disappearance of all odor and the rapid disappearance of swelling and accompanying healthy granulations.

In indolent ulcers a similar beneficial influence was noted.

On the other hand, the remedy is found useless and indeed harmful in gangrene.

Further, it is found to possess the power in a high degree of promoting healthy granulations, as is shown by its use in various forms of lupus and in chronic fungoid inflammation of the joints. The chemical formula of the preparation is not announced in the article calling attention to its merits.—*Berliner klin. Wochenschrift.* October 26, 1885.

SPINAL TUMORS IN CHILDREN.—At the recent meeting of the German Society of Scientists and Physicians, held at Strassburg, HERR KOHTS reported four cases in which tumors of the spinal cord had occurred in children under his observation.

The first case was that of a boy fifteen years old, who for a long time suffered severe pain in the right arm, together with loss of sensibility (and strength) in the member, finally progressing to complete paraplegia and terminating in death.

Post-mortem examination revealed the presence of a very soft sarcoma in the cervical portion of the spinal cord.

The second case was that of a little girl one and a half years of age, of extremely tuberculous parents, who developed in the course of a basilar tubercular meningitis a special sensibility of the vertebræ and a monoplegic paralysis of the left lower extremity. Post-mortem examination in this case showed the presence of tubercle in the thoracic portion of the cord.

In the third case an attack of intermittent fever supervened upon scarlatina. No paralysis occurred, but death followed, with symptoms of meningitis, and tubercle was found in the lower thoracic portion of the cord.

In the fourth case was manifested paralysis of the lower extremities, together with greatly exaggerated reflex excitability, and fistulæ were established proceeding from the vertebræ.

Autopsy showed the presence of caseous foci in the spinal cord.—*Berliner klin. Wochenschrift*, October 26, 1885.

INJURIES OF THE MAIN BLOODVESSELS IN THE AXILLA CAUSED BY EFFORTS TO REDUCE DISLOCATIONS OF THE SHOULDER.—DR. LEWIS A. STIMSON, in a discussion of the injury of the axillar vessels in efforts to reduce dislocation, says: An important question arises in connection with the treatment of dislocation of the shoulder: How far does the possibility of the occurrence of this accident affect the choice of a method of reduction? and also concerning the propriety of attempting reduction in cases that are not recent.

In the reduction of recent dislocations, these accidents show that abduction of the arm especially should be avoided, as also circumduction, violent traction, and rough pressure in the axilla. Kocher's method by manipulation appears well adapted to avoid the danger. It is also to be remembered that the injury to the vessel may be caused by the dislocation itself, and its symptoms may be masked by the swelling commonly present during the first few days.

In old dislocations the probability of the occurrence of the accident is increased by the more forcible measures usually necessary to break up the adhesions that bind the bones in their new relations; and, while it may be proper in many cases to make the attempt to restore the limb to usefulness, this possibility creates another reason for abstention when the patient is old, the duration of the dislocation long, and the adhesion firm. Even a dislocated arm may be very useful, and the fatality of this accident—more than 70 per cent. of deaths, may well cause the surgeon to hesitate to incur the risk merely for the sake of ameliorating a condition which does not endanger life and is quite compatible with activity and usefulness.—*Annals of Surgery*, Nov. 1885.

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COMPRESSION OF THE BRAIN.

MORE than a hundred years ago Saucerotte, while studying the theory of *contre-coup*, was so much impressed with the idea that the brain must be incompressible, as to announce, as one of the modes of fracture by counter-stroke, that a blow on one side of the head might drive forward against its opposite side a column of brain-mass, which would act like a solid body. On the other hand, Adamkiewicz has recently asserted that the brain is compressible, his opinion resting upon the observation that the introduction of a laminaria tent within the skull causes depressions on the surface of the brain. This view, however, is diametrically opposed to the commonly accepted theory in regard to the *rationale* of the symptoms of compression of the brain; and its publication has given rise to a recent paper by VON BERGMANN, in the *Archiv f. klin. Chir.*, Bd. xxxii. Heft 3, in which he comes to the rescue of the theory which he had before advocated in his work on injuries of the head. This theory, it will be remembered, refers the symptoms of compression of the brain to irritation and paralysis of the centres for the pneumogastric and vaso-motor nerves, due to anæmia, caused by pressure upon the capillaries, transmitted from a distant part of the cranium.

This theory rests upon the fact that the brain is incompressible, and that pressure upon any part of it will be conveyed through it. so that its effects will extend to every part, while the predominance of the symptoms of irritation in the centres of the vagus and vaso-motor nerves depends solely upon their relative sensitiveness. The practical importance of the theory is indicated by the fact that WIESMANN, in a paper published in the *Deutsche Zeitscrift f. Chir.*, 1884, Bd. xxi., has collected twenty-two cases, in which reliance upon it has led to trephining, to the removal of a clot, and, in twenty of the cases, to recovery of the patient. In view of these statistics, it is no wonder that Bergmann reiterates the correctness of his theory, and expresses great surprise that Adamkiewicz should have mistaken the phenomenon of mere displacement of the fluid contained in the brain for an evidence of its compressibility. Nor can we see how he could have confounded the effect of the enlargement of a laminaria tent by a slow imbibition of fluid drawn from the succulent tissues nearest to it with that produced by blood escaping rapidly from the vessels, and driven on by the muscular force of the heart and arteries. The fact is, that the juices of the brain may, with tolerable ease, be drawn out, or driven out, of it; but the brain is not compressible in the true sense of this term. It may not be quite so incompressible as Bergmann thinks, who says it must stand between water, which is compressible only forty-six parts in a million, and glass, which is compressible only one part in a million. But that it is incompressible, except by a slow process of displacement of its fluid parts, and acts like an incompressible fluid under certain circumstances, is shown by recent experiments in Germany, in which the skull has been burst by the sudden rise of intracranial hydrostatic pressure, caused by the impact of a projectile travelling with great velocity.

And here we touch the keynote of von Bergmann's article. It is, that increase of intracranial pressure will cause anæmia of the brain, by compressing the capillaries, a very slight reduction in the size of which results in cutting off a large proportion of the blood-current. In 1880 Bergmann directed a series of experiments by Bastgen, in which an artificial anæmia was produced by injecting an emulsion of oil into the distal end of the carotid artery. The effect was typical, as shown, first, by slowing of the pulse, due to irritation of the vagi, and by increase of the blood-pressure, due to irritation of the vasomotor centre; and, secondly, by a reversal of these conditions, due to the succeeding paralysis of both of these centres.

Von Bergmann's interpretation of these experiments seems to be confirmed by the investigations of Naunyn and Schreiber, who found that symptoms of compression of the brain are produced by less elevation of the intracranial pressure, if the blood-current has been previously diminished by compression of the carotid arteries; while it requires a much greater elevation of the intracranial pressure to produce similiar symptoms if the blood pressure in the cranium has been increased by compression of the abdominal aorta. Usually the pressure in the subarachnoid

space in the spinal cord and brain is nearly the same as that in the capillaries, as has been demonstrated by the experiments of Landerer, and confirmed by those of von Bergmann. This, and the effect of raising the intracranial pressure, the latter surgeon has recently exhibited in a child fifteen months old, from whom he removed a meningocele larger than a man's fist. In this case he produced restlessness, cries, turning up of the eyeballs, drowsiness, and Cheyne-Stokes respiration by pressure upon the tumor. It seems clear that the pressure upon the tumor increased the intracranial pressure, from the fact that pressure upon the open fontanelle raised the pressure in the tumor itself. All this furnishes strong support to the theory of compression of the brain which we have stated above.

This theory receives further confirmation from the results of certain experiments of von Schultén, made in studying the same subject, from the standpoint of the changes in the bloodvessels of the fundus of the eye. These experiments are described, and the author's deductions from them are given in a series of valuable articles published in Langenbeck's *Archiv* of this year, the last of which has not yet appeared. We regret that we have not space to more than allude to them, and to the interesting observation which they confirm, that an increase of intracranial pressure is accompanied by an increase of pressure within the sheath of the optic nerve. The result of this is a diminution in the calibre of the arteries of the retina, and an engorgement of the veins, as evinced by the choked disk. An interesting case in which this phenomenon has been observed is now in a hospital in this city. The patient is believed to have an effusion of blood within the skull, due to a fall or blow, and his eye ground shows the very phenomena which von Schultén describes. A systematic examination of the fundus of the eye in cases of injury of the head would furnish, we believe, a valuable complement to the experimental researches which we have mentioned. This is a matter which we would commend to the attention of surgeons who see a large number of such injuries.

PASTEUR ON HYDROPHOBIA.

SINCE the Copenhagen Congress, we have not heard any confirmatory evidence for the statements then made by PASTEUR that he had discovered a cure for hydrophobia, but at a recent meeting of the Paris Academy of Medicine a further, and most important communication was made by him, which, if substantiated, will prove one of the most valuable discoveries of the century. On this occasion he announced that he had, by a series of successful inoculations, cured a case of human rabies.

Briefly stated, the facts are these: He had previously, by vaccinations, rendered dogs insusceptible to the poison, and obtained the modified virus in the following way: A rabbit was inoculated with a portion of the tissue of the spinal cord of a rabid dog, and became affected in about fifteen days. When it was dead, a second rabbit was inoculated with a bit of its cord, and the procedure was followed through a series of sixty animals. With successive cultivations in the rabbits, the virus gets more and more intense, and finally the period of incubation in an animal inoculated is not more than seven days. By keeping portions of the spinal cords in perfectly dry tubes, the virus gradually diminishes in intensity; and the longer it is kept, the more attenuated does it become.

Having thus obtained a proper supply, a suitable subject was forthcoming in an Alsatian lad who, in the beginning of July, was severely bitten in many places by a dog which was undoubtedly rabid. Sixty hours after the bites the first vaccinations were made with very attenuated virus, and were repeated twice a day for a fortnight with virus of successively increasing strength, the last injection being from a rabbit which had died the day before, and in which the poison was intensely virulent. The previous inoculations with weakened virus had rendered him insusceptible to the strongest poison which would render rabid in a short time an unprotected dog or rabbit. One hundred days had elapsed since the last vaccination. and the young man remained well. A second case is undergoing similar treatment.

The strong point in this remarkable record is the fact that dogs subjected to similar inoculations are insusceptible, and do not take the disease even when injected with the strongest virus. The weak point is the short space of time which has intervened since the bites and since the last vacination with strong virus. It is well known that the period of inoculation of rabies may be many months, or even three or four years, though the average period is within one hundred days. Time alone will tell whether the two patients are actually protected. They have been doubly exposed to infection through the original bite and by the intense virus of the final vaccination; but we may reasonably hope that in them, as in the dogs, an immunity has been secured.

The nature of the virus has not yet been determined, but Pasteur supposes it to be a microbe, and the nervous system appears to be the chief seat of its development.

THE MIDWIFE IN PLATO.

IT has been suggested that the Egyptian Isis, the Greek Diana, or Artemis, and the Roman Lucina were simply celebrated midwives, who were given celestial honors because of their kind and successful

care of women in childbirth. Is reverence gone from among men that any should thus ruthlessly destroy myths once consecrated by common belief? Then, too, what sacrifice of poetic beauty is made when these fables are cast in the dust! Think, for example, of the beautiful Diana, the chaste virgin, who transformed Daphne into a laurel to save her from cruel pursuit, who caused Actæon to be devoured by his own dogs because he had seen her bathing, the beneficent being who clothed the meadows with verdure and flowers, and made the fields laugh with bounteous harvests, and who was honored with festal song and solemn sacrifice, especially by virgins and children, having once been, as was Phanærete, the mother of Socrates, "a big, burly midwife!" Nevertheless, many an old faith is cast aside with the progress of the race as a useless encumbrance, a sort of *impedimentum* as the Romans would call it, or as a garment that the wearer has outgrown. Time is as merciless to myths as avarice was to mummies. Of the latter, Sir Thomas Browne thus spoke more than two centuries ago: "The Egyptian mummies, which Cambyses or time hath spared, avarice now consumeth. Mummy is become merchandise, Mizraim cures wounds, and Pharaoh is sold for balsams."

But if the goddesses whom a past age adored are to be dragged from their thrones, and proved to be of common clay, at least there will always remain the opportunity of studying the characteristics of the midwives of old times from whose ranks these divinities, as it is alleged, came.

Probably we have in the Theætetus of Plato one of the best of ancient descriptions of the qualifications and duties of the midwife, and possibly a brief reference to that description may not be uninteresting. "No woman," says Socrates, he being represented as one of the speakers in the dialogue, "as you are probably aware, who is still able to conceive and bear, attends other women, but only those who are past bearing." The reason given for this restriction is, that "human nature cannot know the mystery of an art without experience." This rule, it is quite plain, not only excludes the young, but also the sterile. Similarly, Dionis, writing in the early part of the last century, states that the sage-femme must be married, saying that it would be bad for an unmarried woman to undertake an accouchement when "she was ignorant of all the circumstances necessary *pour faire un enfant.*" Obviously, too, the rule forever excludes male practitioners of midwifery, until the wishes that are occasionally expressed in the lying-in room, often jocularly, sometimes half seriously, to the effect that childbearing should be equally divided between the sexes, are realized.

Readers of George Eliot will remember that she has one of her characters assert that childbearing is done by women in "a poor, miserable, makeshift sort of a way," and that it would have been better if they had left it to the men. But to this judgment of a mysogenist Scotch bachelor, few men would joyfully respond amen.

Socrates next refers to the diagnosis of pregnancy, stating that midwives know better than others who are pregnant. Then their power, by means of potions and incantations, to rouse the pangs of labor and to soothe them at will, is referred to.

Socrates says that "midwives know best what unions are likely to produce a brave brood; if you reflect, you will see that the same art which cultivates and gathers in the fruits of the earth, will be most likely to know in what soils the several plants or seeds should be deposited." He further states that the "true midwife is, also, the true and only matchmaker." It seems that the familiar observation, probably made oftener at the beginning than at the close of married life, matches are made in heaven, is an error, or, as Byron would say, it is truth in masquerade, and that the potent agents in this work are midwives. We sometimes fear that the work of midwives in this regard is often badly done, or else domestic discord would be less frequent, and divorce courts have more rest.

The most important of the qualifications which Plato believed the midwife should have was experience. The same rule is urged in his "Republic" as to physicians: "Now skilful physicians are those who, from their youth upwards, have combined with the knowledge of their art the greatest experience of disease; they had better not be robust in health, and should have had all manner of diseases in their own person." Be merciful, O wisest of all Greeks! Life is too short for any one mortal to endure the hundreds of diseases to which flesh is heir. Life is too weak to bear such a burden. Let midwives continue to make matches, though the conflagrations that some of the latter kindle are most serious, but do not demand of the physician that he should have had all manner of diseases before he attempts to heal the maladies of others.

JAPANESE RAGS IN THE CITY OF PHILADELPHIA.

ON or about the 14th of October last, a cargo of Japanese rags, on board the ship "Lucy A. Nickles," was refused admission to the port of New York by the Health Officer, unless the rags were disinfected by a process approved by him. The consignees claimed that this processs is expensive, as well as destructive to the rags, and they refused to comply with the conditions.

The process referred to consists in submitting the

bales to disinfection by superheated steam applied by means of hollow screws or augurs (perforated with numerous holes) penetrating the bales, through which the steam is forced, and escapes only after permeating every part of the bale. The charges are said to be about five dollars per bale.

As entry was refused at New York, the rags (some 4910 bales) were transferred to schooners, and a portion brought to the port of Philadelphia, where entrance was sought, and the remainder is to follow in a few days. Timely notification of the above facts was given to the Board of Health of Philadelphia, before the arrival of the first schooner-load, and the matter was brought up for consideration at its meeting on the 27th of October. After a prolonged discussion, the whole subject was referred to the Lazaretto Committee, to report at the next meeting. On the following Tuesday, November 3d, the Committee, or a majority of it, reported against admitting the rags unless first disinfected. This report the Board sustained, after due deliberation and much discussion; but two days later, a special meeting of the Board was called, and a resolution was then adopted, by a vote of eight to three, allowing the rags to be landed and stored within the city limits, and without previous disinfection of any kind. In lieu of disinfection a bond was required of the consignees, in the sum of $5000, not to remove the rags from the warehouse without previous notification to the Board, and within the next ten days it is expected that the remainder of the cargo will be landed in this city.

Now, these rags purport to have come from Hiogo, Japan, but in what province of Japan they were gathered, and when, is an open question; and it is well known that cholera has existed in Japan for the past twelve months, and that smallpox is always there —indeed, during the first six months of the present year nearly 5000 cases and over 1000 deaths have been reported. With the knowledge of these facts before them, as well as the sad experience of a few years ago in this city, to say nothing of the knowledge of the results of the fearful scourge now prostrating Montreal, it is criminally imprudent to admit into the country foreign rags from an infected locality without previous disinfection. It is, moreover, a very dangerous precedent, and at once invites rag merchants everywhere to a haven they have long sought.

If rags from one country well known to be infected with two of the most dangerous diseases that assume an epidemic form, can obtain admission to Philadelphia without undergoing disinfection, there is no reason why they should not be admitted from any country, regardless of its sanitary condition. We wish here to enter our most emphatic protest against this utter disregard of the dictates of common prudence and this rash endangerment of the lives of our citizens.

DEATH OF DR. WILLIAM B. CARPENTER.

NOWHERE is it so dangerous as in England for a medical man to acquire a reputation in any department of literature or science that does not bear directly upon tongues and pulses, and yet in no country has the medical profession so many scientific workers of the first rank. From the time of John Hunter, the reputation of the British school of biologists and comparative anatomists has rested largely upon the labors of physicians and surgeons in these departments, and a glance through the files of proceedings of the scientific societies will show what a prominent part they continue to take in the work. The members of the profession who have influenced their generation most widely in this direction in England are Professor Owen, Professor Huxley, and Dr. Carpenter. All three began life as practitioners, but soon relinquished the cares of practice for more congenial pursuits, retaining at the same time very close connections with the profession—Owen as Conservator of the Hunterian Museum, Carpenter as author of the largest and, for years, the best text-book on physiology, and Huxley as author of several works extensively used by medical students.

Dr. Carpenter was very widely known in this country through his *Human Physiology*, which was a favorite text-book for many years, and passed through eight editions. His works on *Comparative Physiology*, and on the *Microscope*, were also republished, and had large sales. As the successor of Forbes in the editorship of the *British and Foreign Medico-Chirurgical Review*, and as Professor of Medical Jurisprudence at University College, he retained very intimate relations with the profession for many years after his removal from Bristol to London, in 1844.

Dr. Carpenter's reputation as a physiologist rested chiefly on his text-books, and he had experienced in this department a foretaste of that oblivion which certainly awaits the author of such works. He will be long remembered by his later investigations upon human automatism, and the work on *Mental Physiology* will outlive many of his other better known books. But his permanent scientific position depends upon the careful researches which he made upon the Foraminifera and other low forms of life, and his investigations in connection with the deep sea dredging expeditions. Throughout a long professional career of fifty years, he was always to be found on the side of progress and humanity, and the profession and the race have been made better by his life.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, November 5, 1885.

THE PRESIDENT, A. JACOBI, M.D., IN THE CHAIR.

REPORT OF THE SECTION IN OBSTETRICS AND DISEASES OF WOMEN AND CHILDREN.

DR. A. S. HUNTER, Chairman, reported that at the last stated meeting of the Section, held October 22, Dr. Howard Pinckney presented a *Hydrocephalic Head of a Colt*, the face of which bore a remarkable resemblance to that of a bull-dog. On account of the large head the dam died in labor; though Dr. Pinckney thought her life might have been saved if craniotomy had been performed. During her pregnancy a large bull-dog was in the stable where the mare was kept.

Dr. Malcolm McLean afterwards read a paper on the *Management of Unfavorable Cephalic Presentations at the Superior Strait*, especially the occipito-posterior positions. In posterior positions of the vertex, when the head cannot be satisfactorily rotated anteriorly by the hand of the accoucheur, or where it will not remain in the anterior position, he advocated podalic version, accomplished by the combined method, in preference to the use of the forceps, the method usually adopted.

DR. D. B. ST. JOHN ROOSA read a

SKETCH OF THE LIFE OF JAMES LAWRENCE LITTLE, M.D., AND OF THE TWENTY-FIVE YEARS IN WHICH HE PRACTISED SURGERY IN NEW YORK.

In April, 1860, Dr. Little began his duties at the New York Hospital as a junior walker, and in April, 1885, he died; so that it may be truly said that a quarter of a century bounded his professional career. In the hospital, Dr. Roosa said, he gave promise of his future career. He was assiduous and faithful as an assistant, and suggestive and enthusiastic as a house surgeon. It was while in the hospital that he devised his method of making and applying plaster-of-Paris splints, and he thought it is not too much to say that chiefly, if not entirely, through Little's efforts plaster-of-Paris splints became a practical application. His best qualities as a surgeon, a teacher, and an executive officer, were seen after his appointment to the Chair of Surgery in the University of Vermont, in 1875. In Burlington, as in New York, "Little's bench" became proverbial, for his operations were preëminently successful.

In reference to his surgical ability, Dr. Roosa said: "Of Dr. Little's surgical achievements in detail, I am not competent to speak, nor is it necessary that I should do so. They are indelibly recorded in surgical literature—at least in part, for of late years Dr. Little was somewhat regardless, from lack of time, perhaps, from his large and exacting public and private practice, to write as much as his friends might have wished. But I may say that he was the first American surgeon to puncture the bladder with the aspirator for the relief of retention of urine. He simultaneously ligated the subclavian and carotid arteries of the right side for aneurism of the first part of the subclavian. The operation for stone by various methods he had performed seventy-seven times, with a fatal result in but two cases; in harelip and strangulated hernia he also had a large and successful experience."

DR. PAUL F. MUNDÉ read a paper on

ELECTRICITY AS A THERAPEUTIC AGENT IN GYNECOLOGY.

Before commencing it he announced that, in consequence of the shortness of the time at his disposal, he would necessarily be obliged to omit certain portions of it. After a brief reference to the literature of the subject, he spoke of the obstacles which stand in the way of the adoption of electricity in general obstetric practice, and went on to say that these do not apply to that of gynecology, in which the patient is usually seen by the physician at his office, where she can be treated deliberately, and where the necessary appliances can always be kept ready for use. No special precautions are required in the application of this agent, and, indeed, the patient is often entirely relieved by it of the pain from which she was suffering when she came to the consulting-room.

The range of its applicability is quite large. The faradic current is especially indicated in malnutrition of the sexual organs, amenorrhœa, irregular menstruation, subinvolution, etc., and the galvanic in such troubles as pelvic neuralgia, fibroids, hyperplasia uteri, etc. The use of the galvanocautery was not considered within the scope of the paper, as in this the heat produced is the essential therapeutic factor. The routine use of electricity, he said, is certainly very uncommon in gynecological practice, and yet he himself, although by no means an expert in the use of this agent, had obtained some very excellent results with it during the last ten or twelve years, employing it in various affections with more or less benefit.

There are certain cardinal points to be remembered, enumeration of which is necessary before proceeding to speak in detail of his experience in special forms of disease.

First. The galvanic current is far more generally useful than the faradic, which, as a rule, has a stimulating effect. The galvanic, on the other hand, acts as a sedative.

Second. A mild, steady galvanic current will answer every purpose, and is in every way preferable to a powerful, interrupted one. The faradic current, however, is useful in proportion to its strength.

Third. Whenever the constant current causes pain, it is doing harm.

Fourth. Personally, he could never decide which pole, the negative or the positive, should preferably be placed within the body, provided care was taken that the current should not be too strong. The effect is apparently the same, whichever pole is used internally. There is, however, one prominent exception. In cases where there is circumscribed pain, the positive pole is the one to be placed near the painful point. In using the faradic current, it is of no consequence which pole is employed internally or externally.

These remarks, Dr. Mundé said, he wished to be distinctly understood as applying exclusively to the use of electricity in connection with the pelvic organs, and not to its effects in other portions of the body, such as the principal nervous centres, for instance.

Fifth. He had always found it safe to begin with a mild current and gradually increase it to the required strength.

Sixth. When internal electrolization is to be employed, it is always best to introduce the internal pole before closing the connection, on account of the sensitiveness of the external parts. Dr. Mundé said he employed an electrode covered with leather for introduction into the vagina, but that he had been recently informed by an electrologist that this in reality afforded no protection to the parts.

Seventh. To be of any service, the treatment must be frequently repeated, and must be continued for a considerable length of time. As a rule, it is useless to make applications less frequently than twice a week, and in many cases they should be made every other day. A course of treatment by localized galvanization should last from three to six months.

Eighth. The results of faradization in chronic affections are less favorable than those of galvanism. But, while relief from pain and an amelioration of the general condition are very often obtained by this means, a complete cure is not to be looked for in many of the affections which come under the gynecologist's notice.

Among the pathological conditions referred to in which treatment by electricity is applicable, were the following:

Deficient Development of the Uterus and Ovaries. If the organs are merely rudimentary, nothing is to be hoped from this or any other treatment; but if the uterus is of the normal shape, though small (such as is seen in the *uterus infantilis*), and there is any tendency whatever to a molimen shown, there is a fair prospect of good results. Here the faradic current is to be employed, aided by the use of sponge-tents and appropriate constitutional measures. Such amenorrhœa is often associated with stunted growth, mental hebetude, etc., and the faradization should be applied every other day for a series of months. For a week before the time of the expected period, the current should be employed with increased strength and for a long time at each sitting. When the molimen is entirely absent, little is to be hoped for. Dr. Mundé did not think a galvanic stem allowed to remain in the uterus is of any special value, believing that whatever benefit is derived from such a contrivance is due simply to the fact that it is a foreign body, and thus has more or less irritative effect upon the uterus.

Chlorosis and amenorrhœa (including deferred and irregular menstruation) are often relieved by electricity, but it is by no means proper that very young girls suffering from such troubles should be subjected to a course of treatment by this agent. The cases are to be carefully selected, and the application of electricity is to be combined with judicious constitutional measures, as well as other local treatment. Perseverance is also essential to secure any good result.

Of course, the possibility of a physiological cause for the absence of the menses is not to be overlooked. In married women electricity will be called for in the treatment of amenorrhœa much more frequently than in unmarried, and it is often of great service when the circulation is sluggish and the energies of the system are directed rather to the formation of adipose tissue than towards the pelvic organs. The same is true as regards some unmarried women, and it is not infrequently found that when the flesh has been reduced the amenorrhœa disappears. No reliance, Dr. Mundé thought, is to be placed on the emmenagogues of the books. Better results are to be obtained, however, with permanganate of potassium; though no other agent is to be compared with electricity in value.

Subinvolution and Menorrhagia. Here the faradic current is indicated, at least in recent cases. In others of longer standing the constant current is of most service; though the electrode is not to be introduced within the uterus. In hyperplasia uteri galvanization is often of very great benefit, both for the relief of reflex neurosis which it affords and its utility in the removal by absorption of abnormal tissue. In this condition the long and frequent application of the current is called for, and intrauterine medication is to be employed in addition. In the rare condition of superinvolution Dr. Mundé had had no experience, but he said he would advise the same treatment for it as for amenorrhœa.

Chronic Oöphoritis and Pachysalpingitis. These affections are extremely painful and annoying, and he thought that the condition of the ovaries is quite analogous to that of the tonsils after repeated tonsillitis. The successive attacks result in a permanent increase of hyperplastic tissue. In enlarged tonsils there is no cure except removal, and a cure is not to be expected in the ovaries. The same is true in regard to chronic catarrh of the Fallopian tubes, and on account of the hyperplasia of the walls of the latter, he had ventured to apply the term pachysalpingitis. In connection with this trouble there is also peri-oöphoritis, or localized perineal inflammation, and the sufferings incident to the whole condition usually rendered life a burden. The only cure is salpingo-oöphorectomy, and in Lawson Tait's hands it has proved an operation comparatively free from risk, but it must be remembered that no other operator has met with the same extraordinary success. In addition to the danger under ordinary circumstances, there is a grave objection to subjecting young married women to an operation which deprives them of all hope of offspring, especially as a number of instances are on record in which conception and pregnancy have occurred in women in this condition. It is better, therefore, to reserve operative interference as a last resort, only to be undertaken in cases of extreme suffering when every other means of relief has failed, except in those instances where imminent danger to the patient calls for the prompt performance of the operation. Dr Mundé said that he had seen very great benefit derived from palliative treatment, and the use of electricity is often of great service in supplementing other local measures. It relieves pain for hours or even days at a time, and by its anæsthetic influence renders the diffuse thickening in the broad ligament less tender to the touch. While it is true that the relief is only temporary, there is in many cases a chance that pregnancy may occur, and in others that the menopause will soon supervene. The radical operation should be deferred, then, until it is absolutely called for.

Chronic Pelvic Cellulitis, Peritonitis, and Lymphangitis. The ordinary treatment for old pelvic adhesions affords very little relief, and there is nothing by any means equal to a mild constant current for this purpose. Acute or subacute exudations, however, do not offer a proper

field for the use of electricity, on account of the danger of setting up new trouble. In lymphangitis the mobility of the affected glands, as a rule, distinguishes the affection from pelvic peritonitis, in which the masses of hard hyperplastic tissue are immovably fixed. The glands often feel like a bundle of angle-worms under the fingers. Their inflammation is usually secondary to some process of irritation, such as a lacerated cervix, etc., and for the chronic condition localized galvanization constitutes the most efficient treatment.

Obstructive and Neuralgic Dysmenorrhœa. The obstruction at the os uteri may be very slight at ordinary times; but when the endometrium becomes congested at the menstrual period, it is sufficient to give rise to much suffering by impeding the free exit of the flow. When other means have failed to relieve the difficulty, galvanic electricity will often be found of very great service; the negative pole of the battery being carried up into the uterus, and not more than ten cells being used. In some cases the pain was relieved very quickly by this means.

Uterine Displacements, Fibroid Tumors, etc. Electricity had been applied to relaxed ligaments in malpositions of the uterus, and good results reported; but he said he had had no experience with this method of treatment. In uterine fibroids he thought it had a future. Apostoli, of Paris, had reported quite remarkable results at the International Medical Congress at Copenhagen, and Everett, of Ohio, had also met with success in this field. The methods at present in use are, at all events, safe; which is more than can be said of the electro-puncture of Kimball and Cutter, which in more than one instance has resulted fatally. Dr. Mundé then referred to a case which he had seen in consultation with Dr. Freeman, of Brooklyn, who afterwards produced a cure by electrolysis, and reported it in a paper read before the King's County Medical Society. It was one of subperitoneal fibroid, and the galvanic current was applied by means of a sharp steel needle insulated to within a short distance of its extremity, thrust into the tumor. He thought that perhaps the necessity for putting the patient frequently under the influence of an anæsthetic may prove an objection to the method.

Conclusions. At the close of the paper the following conclusions were given:

First. Electricity is a valuable agent in gynecology, and one which deserves to be much more frequently resorted to than is now the case.

Second. Its application in gynecological practice does not require a special knowledge of the use of electricity.

Third. The remedy, if properly used, cannot do harm.

Fourth. It is of especial service in chronic conditions, and no pain is experienced if the galvanic current is employed.

Fifth. The faradic current is indicated in deficient development and want of tone in the pelvic organs.

Sixth. The galvanic current is to be used to promote absorption of adventitious products and allay pain.

Seventh. This method of treatment requires much perseverance.

Eighth. It is contraindicated in acute inflammatory conditions.

Ninth. The pathological conditions in which electricity proves useful are those in which other treatment often fails, or cannot be borne by the patient.

Tenth. In organic diseases a permanent cure or a restoration of the diseased organs to perfect health cannot be expected; but very marked relief, and that without danger, may often be afforded by means of electricity.

DR. FREEMAN, of Brooklyn, said that he coincided with Dr. Mundé in almost all that he had said. He commenced to use electricity in his practice some twenty-five years ago, when he was living in Illinois. At that time he employed only the faradic current. Sixteen years ago he removed to Brooklyn, and just afterwards a dyspepsia from which he had long been suffering culminated in acute gastralgia. For this he tried the faradic current, but without relief; and he was afterwards cured of it by means of the galvanic. He has now almost entirely given up the use of the faradic current except for the purpose of exciting muscular contraction, and this can also be accomplished by means of the interrupted galvanic. There is one other form of electricity which is not mentioned in the paper, viz., the static, and during the last four years he has used this forty times as often as either of the others in his practice. It has a great advantage in that it can be employed so easily and so pleasantly to the patient, and the removal of the clothing is not required as when they are used. One of the most useful purposes which electricity secures is the relief of pain, and on this account it has proved a great blessing, as it enables us to a large extent to avoid the use of opiates. Under the application of the static current pain often disappears like magic, and the patient feels a pleasant exhilarating effect not unlike that from champagne, but without any attendant disagreeable results.

Dr. Freeman then went on to speak of the treatment of uterine fibroids by electricity, and stated that he had that day seen the patient to whom Dr. Mundé referred in his paper. All that is now left of the tumor is some thickening of the uterine walls at the point where it had been situated. In this case the uterus was firmly bound down by adhesions, and the use of the knife was out of the question. He then mentioned the case of another patient, a married lady 26 years of age, who had a uterine fibroid. The tumor was as large as a cocoanut, and the cavity of the uterus measured four and three-quarters inches in length. The bladder was attached to the whole anterior surface of the growth, and severe cystitis had been set up by it. Posteriorly, it pressed upon the rectum, and caused great difficulty with the bowels. The patient also suffered greatly from dyspepsia, and was constantly confined to bed. On the 28th of February last she was put under an anæsthetic and electrolysis was resorted to; a round insulated steel needle being used for the purpose. On account of the density of the tumor the needle was introduced with great difficulty, and it was almost impossible to move it from one point to another. Thirty-two cells of a zinc-carbon battery were used. Afterwards the galvanic current was employed for two months for the relief of the dyspepsia and the patient's general condition. The tumor was then little more than half its former size. At the second operation, at which Dr, James B. Hunter, of New York, was present, the needle entered without any difficulty, and could readily be moved about in any

direction, so greatly softened had the dense tissue become. In June the operation was again repeated, the patient in the meanwhile having been up and attending to her household duties all the time. In August she walked three-quarters of a mile to his office, and was found to be in excellent health. At present there is only some thickening of the anterior wall of the uterus left, and the organ is about the normal size.

A third patient, who lives at Saratoga, he saw for the first time last spring. He found there were two tumors in this case, and he gave her three treatments; eight days elapsing between the first and second, and one month between the second and third. A fourth treatment was given at her own home, in Saratoga, in the summer, and at this time he found that the larger tumor had disappeared altogether, while the smaller one was reduced to about one-half its former size. Since then the latter has disappeared also; but when he saw her last week, he discovered still another tumor, which appeared to be of a floating character and entirely separate from the uterus. This was treated November 2d, in the same way; on this occasion a Barrett chloride of zinc battery of fifty cells being employed, and the electrolysis kept up for fifty minutes. In none of these cases had there been any rise of temperature after the application of electricity in the manner described.

DR. A. D. ROCKWELL said that he had held for a long time that electricity should hold a higher position in gynecology, as well as in general practice, than it hitherto has done; and he was, therefore, much pleased to hear an expert gynecologist, like Dr. Mundé, making a plea for its more general employment in this department of medicine. While not, of course, a panacea, it is a remedy which has a very wide range of usefulness. He had seen it employed in the various conditions to which the author of the paper had referred, and could testify to the correctness of his statements. In subinvolution, however, he would expect that the galvanic current would be of more service than the faradic. The thing that interested him most, he said, because it was a new application of the remedy, was the use of galvanism in pelvic cellulitis. Electricity may now be well considered indispensable to the gynecologist.

DR. H. J. GARRIGUES said that for about thirteen years he had used this agent more or less in gynecological practice. The chief reason why he had not used it more is because it takes too much time. Dr. Mundé had stated in his paper that it is sometimes necessary to devote half an hour every other day to the treatment, and he did not see how any one actively engaged in practice could spare so much time as this. Another reason is, that he has found that he can get as good results with other remedies which do not occupy so much time. The condition in which he has most frequently employed electricity is amenorrhœa, and in this it has not always answered the desired purpose, not only in cases where the uterus, but also in those in which the difficulty was merely functional. The simple introduction of the sound, by its mechanical irritation, had proved about as useful as any other method of treatment in amenorrhœa. Internal remedies, especially iron and permanganate of potassium, had also proved quite satisfactory in his hands. As to the treatment of fibroids by electricity, the reports of so many favorable cases certainly deserve to call the careful attention of the profession to the subject. He would merely say, in conclusion, that one difficulty which he had met with in the use of galvanism was, that even with a weak current, the electrode introduced within the vagina produced an escharotic effect.

DR. BIRDSALL thought that the author of the paper had, on the whole, expressed sound views. The literature of the subject, it must be confessed, is rather mystifying and unsatisfactory. One great difficulty is to find out what the observers who have reported cases have really used. He believed, however, that the time is coming when by the more general spread of knowledge on this subject we shall have a better opportunity to compare notes. Dr. Mundé had stated that it is not necessary to have great skill in the use of electricity to apply it successfully in gynecological practice. While, however, good results may be obtained without this, he thought that much better results can be secured by the employment of more exact methods, and that the adoption of the latter will also have a better effect upon the profession from a scientific point of view. At present, one of the great difficulties met with is to get at the strength of the current applied in any given instance. The number of cells reported as used, while (provided the battery is in good working order) it may act as a guide to those who are familiar with exactly the same apparatus, conveys no idea of the power employed to others reading the account. The only real test is the galvanometer, and, notwithstanding the difficulties in the way of using it, he trusts that it will be generally adopted at no distant date. As to the matter of subinvolution, he thought that galvanism is much more serviceable than the faradic current, which is indicated in all cases where we wish to excite muscular contraction or cutaneous irritation. The most important, perhaps, of the conclusions enumerated by the author of the paper, is the one in which the caution is given about using electricity in acute and subacute cases. The effects of this agent, he went on to say, are exceedingly transient, and the applications should, therefore, be often repeated; as, for instance, every other day. When this is done, a very mild current will answer every purpose.

DR. MALCOLM MCLEAN remarked that Tait's operation is being overdone. Though he has performed it himself but once (and, fortunately, with a good result), he has seen a great many cases of it, and there is one point about the operation which does not appear in the reports of it. This is, that the effects are not usually so lasting as generally supposed, and he thought that if all the cases which are reported as cured were to be examined at the end of say eighteen months, fifty per cent. of these patients will be found to be suffering with the old pelvic pain. Hence, the results are by no means satisfactory, and he believes that in the future galvanism will to a large extent take the place of Tait's operation.

DR. BURKE mentioned three cases of metrorrhagia and menorrhagia in which trachelorrhaphy was performed with no effect, but in which positive results were obtained from the use of the faradic current. When it was commenced, galvanism had already been tried in vain; yet in from two to four months the patients were all cured by faradization. Nearly two years have now elapsed, and the results have been permanent.

DR. MUNDÉ, in closing the discussion, said that most of the points referred to by Dr. Birdsall were touched npon in the portions of the paper which it was necessary to omit in the reading. This was also true of the objection which Dr. Garrigues had raised, as to the amount of time required, since he had distinctly stated then that the process is a very tedious one, and that it requires no little personal sacrifice on the part of the gynecologist to carry out; but, nevertheless, if the patient's interests demand it, and the same results cannot be obtained in any other way, he thought it the physician's duty to perform the task. In regard to subinvolution, he recommends the faradic current only in the early stages with menorrhagia. Afterwards the condition is very much the same as in hyperplasia, and the galvanic current is chiefly to be used. He has never had any experience with static electricity, and should be glad to give it a trial. He did not wish to be understood to mean that no skill is desirable in the application of electricity in gynecology; but only that intelligent physicians, not specially skilled in it, can do great good with it, though he quite agrees with Dr. Birdsall, that a high degree of skill is very desirable in order to secure the best results possible. His object in the paper had been to popularize this method of treatment in gynecology, so far as he is able to do so.

THE PRESIDENT said he was very glad that the paper had been read, as he thought it was very much needed. Within a day or two he had taken the trouble to rush through three of the most important works on gynecology by German authors, and the use of electricity is scarcely alluded to in them. The same is true of gynecological literature in general, and about all the knowledge at command on this subject is to be found in works devoted to electro-therapeutics and neurology. Having expressed his surprise that the author of the paper had not referred to the brilliant results obtained by Thomas, by the use of electricity in extrauterine pregnancy, Dr. Mundé stated that in the part of the paper which has been omitted he had spoken of the matter, though as it is one pertaining rather to obstetrics than to gynecology proper, he had not given it a detailed notice.

PHILADELPHIA PATHOLOGICAL SOCIETY.

Stated Meeting, October 14, 1885.

THE PRESIDENT, J. C. WILSON, M. D., IN THE CHAIR.

DR. J. COLLINS WARREN, of Boston, read a paper on

A COMPARISON OF THE CHANGES IN ARTERIES AFTER LIGATURE AND IN THE DUCTUS ARTERIOSUS AND UMBILICAL ARTERIES AFTER BIRTH.

After the ligature of an artery in continuity, the earliest changes noted are the formation of the thrombi within the vessel, and the development of a mass of inflammatory tissue or callus around the point of ligature externally. No perceptible cell action can be observed in the inner wall, with low powers, during the first week, although under favorable circumstances a proliferation to a limited extent of the endothelial cells near the point of ligature can be seen with high powers, and occasionally a few wandering cells may be found to have penetrated the walls of the vessel at the same point. In the second week the bundle of fibres of the adventitia, which were surrounded and held by the knot, have been absorbed, and the two ends of the vessel retract slightly from one another, leaving the ligature embedded in and partly disintegrated by the granulation cells. The walls of each portion appear to form a complete cul-de-sac, and it looks at this time as if the healing process were complete; but it can hardly be said to have more than begun, as the vessel has not yet passed through what may be considered as the first stage of healing.

The beginning of the second stage is marked by an unfolding of the ends of the vessel, the walls separating somewhat after the manner of opening of a bud, which permits the entrance of a considerable quantity of the granulation tissue. A disintegration of the thrombus follows and we have now a fully developed external and internal callus, a small fragment of clot still protecting the latter from the current. The ligature may be totally disintegrated and absorbed, or it may have become encysted, or finally it may have created a small abscess about itself which has discharged the fragments of thread through a sinus opening externally.

The second stage is completed when the internal growth has reached the neighborhood of a branch. After this we have an absorption of the callus, which, as in fracture, is only a provisional structure, and eventually the two ends of the vessel are found held together by a slender cord of varying length. The walls of the vessel are slightly separated at each end by a cicatrix consisting of connective tissue externally, inside of which is another layer consisting largely of unstriped muscular fibre, the surface being covered within by a new endothelium. The cicatrix is always pierced by a vessel which terminates in a number of capillaries ramifying in the cord. We have here a scar made up of three layers resembling closely the three coats of the vessel. In the large vessel of amputation stumps we have a somewhat different series of changes. Soon after the ligation the end of the vessel may be seen embedded in granulation tissue and containing a thrombus of varying length. By the second week there is a marked change in the intima extending for some distance above the point of ligation, probably to the first large branch or to the origin of the vessel. Examined several months later, when the healing process has been completed, the vessel is found to be preserved in the form of a cord running from the first large sized branch to the cicatrix of the stump; on laying open this cord the walls of the vessel are found preserved, the interior being filled with new tissue leaving spaces occupied by one or more vessels. There has been a process resembling that known as obliterating endocarditis, by which the calibre of the blood channel has been narrowed to an extent to adapt it to the diminished blood-supply. In this obliterating tissue we find comparatively large vessels with new coats consisting of an endothelium, an elastic membrane, and also a new media. An erosion preparation would best represent the condition of the arteries of the stump at this time. The main artery would, after giving off its largest branches, break into a spray of smaller vessels no one of which would predominate.

A comparison of these two modes of healing with the changes seen in the arterial system, seen after birth, shows certain resemblances in the two processes. The ductus arteriosus about the time of birth differs consider-

ably from the structure of the aorta and pulmonary artery. The media is much thicker than in either of these vessels, it is thrown into irregular folds which are increased at the time of birth, and help to narrow its calibre. The distinctions between the different layers of its wall are less marked than in other vessels. The lamina elastica is indistinct, and in places apparently wanting; the media consists chiefly of longitudinal layers of muscular fibres, a few circular bundles existing in the innermost layer. A few weeks after birth a greater portion of the walls of the ductus undergoes hyaline degeneration, the inner or circular fibres of the media alone remaining, these being reinforced apparently by a growth from the media of the larger vessels. At this time there is an active growth of long spindle-shaped cells with staff-shaped nuclei at the edges of the media bordering on the opening into the aorta, there is also a moderate thickening of the intima. Eventually the hyaline tissue becomes absorbed and is replaced by a ligamentous band of fibres which becomes continuous at either end with the media of the larger vessels. At the aortic end in a longitudinal section we see the media slightly separated. At the point of the cicatrix, and between them, and also continuous with them, are the longitudinal fibres of the ligamentum arteriosum. In this ligamentous tissue, and between the edges of the media, are numerous new muscular cells; nearer the surface is a layer of thickened intima, which in the aorta has not only connective tissue in it, but also a deep musculo-elastic layer; in the centre of the depression marking the site of the cicatrix, a small vessel is given off which penetrates into the axis of the ligament, where it either loses itself in a capillary network or becomes continuous with a similar vessel coming from the pulmonary artery. We have here conditions closely resembling those which have been described as existing in the cicatrix of a large artery after ligature in continuity, namely, the slightly separated ends of the media between which lie the fibres of the ligament connecting it with the pulmonary artery, a new intima, and a new growth of muscular cells, and finally a central arteriole. The only point of difference is the preservation of a layer of muscular fibres which form an outer wall to the ligamentous band, a much-needed support at a point exposed to great tension. Further protection is afforded by the oblique insertion of the ductus into the aorta, diminishing the pressure upon this particular point.

At birth the umbilical artery, or that usually called the hypogastric artery, the portion within the abdomen, at its origin from the internal iliac, is a vessel of considerable size; being, in fact, a continuation of that artery. At its termination in the umbilical wound it has greatly contracted, and is filled with clot for a distance of about one inch. The outlines of the various walls are not as distinct as in other vessels, and the elastic lamina are for the most part wanting. No special change is seen in the elements of the walls of the vessel, except a slight accumulation of endothelial cells near the apex of the thrombus. A few weeks later there is a distinct growth on the inner surface of the wall up to its point of origin, the terminal portion having undergone a hyaline degeneration and obliteration for a short distance. The vessel has greatly contracted throughout its entire length, and its calibre is further diminished by the growth in its interior. Cross sections taken from the superior vesical artery in adult life show the media as a wall, thick out of all proportion to the size of the vessel, and consisting not only of its original wall, containing longitudinal muscular cells interspersed with elastic tissue, but also an inner circular row of cells, which is provided with a well-formed elastic lamina. It seems probable that the greater portion of the hypogastric artery has been preserved, the ligamentous band, which extends to the umbilicus consisting of the obliterated extremity of that vessel much elongated during the process of growth. The series of changes which occur in the hypogastric artery after birth is closely analogous to that seen in the main trunk of an amputation stump—a slight portion of each vessel is destroyed, both retract and are attached to the terminal cicatrix by a band of fibrous tissue, both remain as previous vessels with thickened coats and narrowed calibre. In both the process is not unlike that seen in the so-called obliterating or compensatory arteritis. Arteritis hardly seems a term applicable to the changes taking place in normal arteries after birth, nor can the alterations which have been developed through the whole length of a large vessel, extending a considerable distance from the original seat of inflammation be strictly regarded as of an inflammatory nature. May not the obliterating growths found to exist simultaneously in terminal arteries in widely removed portions of the body of the same individual also be regarded, not as of inflammatory nature, but rather as a secondary and formative process, closely connected with disturbances in the mechanism of nutrition, designed to adapt the vessels to a diminished blood-supply?

DR. S. W. GROSS said, in view of the fact that Dr. Warren's teaching seemed so directly opposed to that of other observers, he would like to have some points cleared up. He would, therefore, ask whether Dr. Warren held: 1st, that instead of the external coat's sloughing and coming away with the ligature, where it is so included, the pressure of the ligature sets up an irritation which causes the adventitia to return to its embryonic state with a reconversion, after the ligature has cut through this, to connective tissue; and, 2d, whether the repair of arteries is brought about by the ingrowth of the cicatricial tissue, which he likened to provisional callus. together with some proliferation of the muscular cells of the media.

DR. RANDALL said that, as the result of careful study of the subject, he had always found the clot present at first, and that it was honeycombed, even in the first few days, by the contraction of its fibrin, through the spaces thus formed the blood seemed to be circulating. Cells, either original white cells, or of endothelial origin, occupied the walls of these cavernous spaces, and seemed to sheathe them. The red cells early melted down into a homogeneous mass, furnishing the framework upon which the reparative tissue was built. The "plastic clot" of some observers he had not seen, the new cells being distributed throughout the old clot as well as upon the vessel walls, and not specially collected in the immediate neighborhood of the ligature. The obliteration of the vessel was accomplished by the growth and contraction of the trabeculæ of new tissue built upon the remains of the original blood clot. Even close to the ligature he had not found the vessel walls greatly altered, merely showing a great increase in the nuclei and in the number and size of the vasa vasorum, the

lamina elastica being distinct, and as a rule intact. Toward the end of the first month the new tissue was largely spindle-cells, but careful staining had given no suggestion of muscular tissue. But, not having carried his study beyond the first month, he had no data upon this subject, since the development of muscular tissue is claimed to occur only at a later stage.

DR. FORMAD was inclined to favor the views of Dr. Randall. The observation of Dr. Warren, that the new-formed connective tissue played the most important part, was to him entirely novel. He thought probably that pressure upon the artery from without, with consequent diminution in its lumen, might bring about a condition more analogous to the growth of fœtal life than to inflammation.

DR. MEARS remarked that we are liable to be confused in considering this subject by the presence of the blood in the vessel. So far as the process of healing after ligature is concerned, we may consider only the structures which enter into the formation of the vessel wall, which is complex in character and composed of connective, elastic, and endothelial tissues. Dr. Warren has given us a very clear demonstration of cicatrization as it occurs in these structures after application of the ligature.

DR. TYSON said the most novel feature to him in Dr. Warren's observations was the part played by the muscular tissue. This apparent increase in the muscular tissue he was inclined to believe is only a proliferation of intramuscular connective tissue. He is becoming more and more convinced that there is only one kind of inflammation, the interstitial. He feared that he might himself mistake a proliferating connective tissue with spindle cells for muscular tissue. It is true that new-formed capillaries and arterioles have muscular walls, but the development of these seemed to him to be a slower process. He had expected to find a process of repair in the ductus arteriosus different from that in an ordinary artery. This process, he had expected, would be a true endarteritis, for it seems that the conditions of closure here are rather different from those in the ligaturing of an ordinary artery, and in the umbilical artery where we have also ligation practised.

DR. WARREN, in closing the discussion, said that in cases where there is much breaking down and little repair, there might be a sloughing of the external coat, yet in his experiments this part of the arterial wall did not slough, but was simply absorbed by the granulation tissue, as is the ligature itself in some cases. In the normal condition even the elastic lamina is not a perfectly continuous plate; he did not refer to these breaks, however, but to numbers of little ruptures incident to the pulling out of the wound of an artery in the act of ligature—however, this need not necessarily occur. He had not attempted to identify anything like muscular tissue early; this could not be recognized till we had a permanent cicatrix formed. He had carefully eliminated all sources of error, and it seemed to him that in almost all cases there was a considerable number of these muscular cells. The layer was not always as well marked as in his diagrams, especially is this true of human cases, but these had all been in alcohol for some years; of the fresh specimens he had selected only those in which he had considered the process complete. In a specimen which he had here to-night, through an opening in the lamina elastica cells could be traced from the muscular layer, those in the inside resembling exactly those outside. These facts, together with the fact that we have normally a few muscular cells inside of the lamina elastica, lead him to believe in the proliferation of the muscular tissue. The disintegration of the blood-clot is accomplished by granulations growing inward from the callus, there being two sets of bloodvessels, one in the granulations, the other (blood-spaces rather) in the clot itself; these unite about the end of the first or second month.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, October 6, 1885.

THE PRESIDENT, W. R. BIRDSALL, M.D., IN THE CHAIR.

DR. E. C. SEGUIN read a paper entitled

A CONTRIBUTION TO THE PATHOLOGY OF HEMIANOPSIA OF CENTRAL ORIGIN; CASE WITH SPECIMEN.

He first gave a brief synopsis of views, anatomical or pathological, of hemianopsia of basal or peripheral origin, recognizing the following types:

1. Horizontal hemianopsia, superior or inferior, usually due to lesions within the eye, and hence of less interest to the neurologist.

2. Vertical hemianopsia, always caused by a lesion of the basal visual apparatus, or by disease in a certain limited part of the cerebrum.

a. Temporal hemianopsia, in which the temporal half of both visual fields is dark.

b. Nasal hemianopsia, in which the nasal half of both visual fields is obscured.

c. Lateral hemianopsia. This is often designated homonymous hemianopsia. In this variety the nasal half of one visual field and the temporal half of the other are dark, so that with one or both eyes open the patient sees the same half of any object placed in front of him. This variety is the one which results from a truly central lesion, and forms the object of study in the paper.

Varieties *a* and *b* are caused by lesions variously placed in or around the chiasms of the optic nerves.

The author proceeded to analyze the recorded observations of hemianopsia due to cerebral lesion, 42 in number, including the author's own case. Of these, 37 were medical, and accompanied by autopsies; 5 surgical, followed by survival of the patient. These relatively numerous observations were classified as follows:

a. Cases of lateral hemianopsia, indefinite or irrelevant, and useless for localization study, 34 in number, observed by Charcot and Pitres, Linnell, Wiethe, and Petrina.

b. Cases of lateral hemianopsia from lesions of parts of brain not directly related to the optic apparatus, 3 cases; by Hirschberg, Huguenin (Obs. of 1876), and Pflüger.

c. Cases of lateral heminanopsia from lesions involving chiefly the thalamus opticus or corpus geniculatum laterale, 6 in number; by Jackson and Gowers, Pooley, Dreschfeld (3 cases), and Rosenbach.

d. Cases of lateral hemianopsia from lesions chiefly or exclusively involving the white substance of the

occipital lobe, 11 cases; by Levick, Hosch, Baumgarten, Dmitrowsky and Lebeden, Westphal (1881), Senator, Sturger (Case VII.), Wernicke, and Hahn, Jany, Richter, and Schmalz.

e. Cases of lateral hemianopsia of external or traumatic origin, 5 cases; by Keen and Thompson; reëxamined by Dr. Seguin, Hughes, Schmidt, Rimpler, Heuse, and Nieden.

f. Cases of lateral hemianopsia, due to lesions involving the cortex of the brain and subjacent white substance, 13 cases; by Westphal (1882), Stuger (Case VIII.), Förster, and Wernicke; Jastrowitz (2 cases), Curschmann, Nothnagel, Marchand, Chillou, Haab, Huguenin (1882), Féré, and the author's case.

This last category being by far the most important for the study of the localization of the visual centre in man, Dr. Seguin gave full abstracts of all these cases. The lesions in all were so placed as to cumulate toward the mesial aspect of the occipital lobe.

This result was shown by means of a shaded chart, consisting of a diagram of the mesial and lateral views of the brain, upon which the lesions of the thirteen cases were reproduced with one layer of India ink. The result was strikingly visible in the great blackness of an area upon the mesial aspect of the cerebrum, including the lower part of the cuneus and the fifth temporal gyrus (Ecker).

To this locality, also, was limited the lesion found in the following cases: Haab's, Huguenin's, Féré's, and Seguin's. These were single lesions, and no paralysis or anæsthesia had been observed during the patient's life—only hemianopsia.

Dr. Seguin's own case was as follows: A man, æt. 46, affected with malignant endocarditis (mitral vegetations), which proved fatal in sixteen months from first observation in January, 1884, through repeated visceral embolism. The case also exhibited for many weeks an exquisite intermittent form of fever, closely imitating malarial intermittent.

About December 5, 1884, Mr. D. suddenly complained of "blindness of the left eye," and slight numbness through the whole left side of the body. He strongly insisted then, and frequently thereafter, that his left eye was alone affected, because he could not see to his left. Examination showed well-defined left lateral hemianopsia, the vertical line passing a little to the left of the point of fixation. In a short time the numbness passed away, but the hemianopsia persisted until death. For many months before death Mr. D. was able to read and write easily and attend to business outside, in spite of the hemianopsia.

The lesion found at the autopsy was a large old patch of yellow softening, involving the greater part of the right cuneus, almost reaching the apex of the occipital lobe, and the fifth and fourth temporal gyri, extending also front and into the gyrus hippocampi. This lesion was found to be due to blockade of the occipital artery, branch of the posterior cerebral. The white matter was involved to a depth of several millimetres.

No sections were made in the fresh state of the specimen, in order to prepare it for more careful examination when hardened. Unfortunately, this process was unsuccessful in part, and only the occipital end of the brain became hard. The absence of decided motor and sensory symptoms during life, however, makes it quite certain that there were no other gross lesions in the brain.

From these four cases, supported by the cumulative evidence of all the others, Dr. Seguin considered it as well proven that the visual centre (receiving impressions from one corresponding half of each retina) in man is in the cuneus and adjacent gray matter below it. A destruction of this part of the hemisphere inevitably produces lateral hemianopsia of the field on the opposite side of the body.

As regards those few cases in which the lesion causing lateral hemianopsia is situated upon the lateral aspect of the hemisphere, in the inferior parietal lobule and the gyrus angularis, Dr. Seguin called attention to the fact that the optic fasciculus of Gratiolet and Wernicke, on its way from the primary optic centres, latter end of the posterior horn of the lateral ventricles to the cuneus, passes close under these gyri, and a lesion which penetrates at all beneath the gray matter of their cortex must intercept, by pressure or by destruction, the optic fibres. These are lesions intercepting communication between the eyes and the visual centre, while lesions of the mesial aspect of the occipital lobe destroy the centre itself.

DR. T. R. POOLEY said that, without knowing at all the direction which Dr. Seguin's paper would take, he had hastily looked over his records, and briefly abstracted five cases of hemianopsia, of which he had notes. One of these cases is the case referred to by Dr. Seguin in his paper. He felt quite incompetent to discuss the physiological and theoretical question as to the location of the lesion, and the importance of different symptoms in helping us exactly to locate the lesion in the brain. Nor would he at this late hour refer to all the cases of which he had intended to relate somewhat in detail the clinical histories. He would content himself with speaking only of one case which has recently come under his observation, and which is now under treatment. It is a case which he saw a week ago—that of a gentleman aged 35, who came under his care in 1879 for comparative blindness of his left eye, which he found to be due to circumscribed choroidal exudation situated near the macula lutea. In his former experience with such cases, he always believed them to be due to syphilitic infection, and careful inquiry into the history of this case showed it to be also due to this poison. The patient remained for a time under treatment for this inflammatory exudation, from which he recovered with a scotoma, and enjoyed comparatively good health and freedom from all further syphilitic manifestations until a week ago, when he consulted Dr. Pooley again.

On this occasion the patient was driving with his wife in the country, and suddenly became perfectly blind. This blindness lasted for but a few moments. Upon recovering, he ascertained that there was dimness of vision upon the left side, which continued until he came to see Dr. Pooley. Examination showed left homonymous hemianopsia, the blind area extending almost to the point of fixation in each eye. Examination of acuteness of vision showed in the left eye (and this is interesting because of the previous condition of the eye) $\frac{22}{C}$; the right eye, $\frac{20}{XX}$, or perfect. The optic disks were quite

normal; the bloodvessels were of full size; there was no indication of atrophy of the optic nerve by neuritis.

The interesting and remarkable fact in this case, is the improvement which took place within a week from the commencement of treatment. On account of the previous history of the case the patient was placed upon large doses of iodide of potassium. Former experience with the use of the drug, however, led Dr. Pooley at first to give comparatively small doses, only fifteen grains. But he found that the patient tolerated large doses much better than he did small ones, and he immediately began pushing the remedy, so that he gave him one drachm three times a day by the third day. Already upon the first day after treatment had been begun the visual fields had increased in extent, and this increase in the visual field has steadily continued until the present date. Unfortunately he had not had opportunity to make measurements with the perimeter, the patient being treated at his home, but he might estimate that the field of vision has extended from near the point of fixation to one-third the normal limits, the increase being apparently symmetrical. He should like very much to have Dr. Seguin's opinion as to whether in a case of this kind, in which there has been such marked improvement within a week's time, we may hope for permanent benefit.

DR. M. A. STARR thought that the list Dr. Seguin had presented is a complete one with perhaps a single exception, that of a case presented by Demange, in the *Revue de Médecine* for May, 1883. That case is referred to by Dr. Gowers in his last work on *Diseases of the Brain*, in a way to lead one to suppose that it supported the assertion of Ferrier, that the angular gyrus is the centre for vision. He has found, however, on looking up the case, that the lesion was one which coincided very largely with that of the first case of Westphal, and is very well represented by the diagram shown by Dr. Seguin of that case. It was a very large lesion, involving both parietal lobules and the occipital lobe. Gowers refers to that case as proving that a lesion upon one side of the brain may produce blindness of the opposite eye, and says it supports Ferrier's assertion of amblyopia being due to lesion of one angular gyrus. In the original report, however, it is only stated that the patient could not see well with the left eye, and it does not state that there had been any careful measurement of the field of vision. Therefore, in all probability, the patient had hemianopsia, and as in a number of cases reported by Dr. Seguin, and in a number which he himself had collected, lack of careful observation on the part of the examining physician failed to elicit the symptom, which was undoubtedly present. The necessity for careful examination in all of these cases has been dwelt upon by Dr. Seguin, and he thought it ought to be emphasized, because it is evident, from the history of these cases, that a patient with hemianopsia does not notice the exact field of vision, but only notices that he is blind in one eye, and refers it to the eye whose field of vision is most largely implicated. The necessity for such an examination is shown in the fact that Dr. Seguin has been able to collect eight cases in addition to those which he had collected—that is to say, eight new cases have occurred since January, 1884. This great increase in the number of cases of hemianopsia is only apparent, few cases having been recorded previously because of imperfect examinations of the visual field.

He would not anticipate Dr. Seguin in answering the question asked by Dr. Pooley, but he had in his hand a case published by Baer in Volkmann's *Sammlung klinischer Vorträge*, which is almost identical with that related by Dr. Pooley this evening: a case of hemianops a coming on suddenly in a syphilitic individual; a se.ies of diagrams are given, showing the progressive improvement of the patient, and final complete recovery.

His attention was first called to this subject three years ago, by seeing a case of hemianopsia in Charcot's wards, and in his lecture on that case Charcot virtually retracted his own diagram and adopted one like that shown by Dr. Seguin. So that, he thought, we should cease to copy the old diagram made by Charcot, as it has been abandoned in France and Germany.

The absolute necessity for such a collection of cases as Dr. Seguin has made for settling any disputed question of localization is perfectly evident to all. It is the only way in which this question of localization can be really determined. To make conclusions from physiological experiments, he thought, is no longer warranted. We must go to carefully made autopsies.

It may be interesting to know that in October, 1858, the Pathological Society of Philadelphia discussed the subject of abscess of the brain, and at that meeting Dr. Weir Mitchell presented a case with the records, in which a large abscess at the posterior part of the brain, involving both occipital lobes, was attended with blindness, and the blindness seemed to be the chief *local* symptom (as we should say now) of the disease. The Pathological Society were at a loss to explain the occurrence of blindness with this lesion in the occipital lobes. Dr. Starr thought that it was encouraging to the general cause of clinical diagnosis that now, after the lapse of these years, we are able to explain perfectly that case which then so puzzled the Pathological Society of Philadelphia.

DR. SEGUIN closed the discussion, and apologized for having detained the Society with so long a paper. With reference to Dr. Pooley's question, he would have to decline to answer it for want of experience. He had never seen a case of hemianopsia which was not embolic or possibly due to a tumor, and in which there was no indication for treatment.

NEW YORK SURGICAL SOCIETY.

Stated Meeting, October 27, 1885.

THE PRESIDENT, ROBERT F. WEIR, M.D., IN THE CHAIR.

SIMPLE FRACTURE OF THE PATELLA TREATED BY WIRING THE FRAGMENTS; SECOND FRACTURE TREATED BY SUTURING THE FRAGMENTS WITH CATGUT; FALSE MEMBRANES WITHIN THE JOINT SEEN AT THE TIME OF THE SECOND OPERATION.

DR. L. A. STIMSON presented a man, twenty-one years of age, in whom he had had the opportunity of observing the condition of the knee-joint two and a half months after the patella had been wired for a simple fracture. The patient came to Bellevue Hos-

pital last June with simple fracture of the patella, and was treated by one of Dr. Stimson's colleagues, by making a transverse incision and wiring the bone with silver wire, two sutures being inserted. The case did perfectly well, and the patient recovered without any elevation of temperature or manifestation of trouble in the joint. When Dr. Stimson first saw him, two and a half months after the operation, the fragments were closely united without independent mobility, and the patient was walking about the wards with a condition of the knee which allowed the joint to move through the arc of a circle about twenty degrees. About one week afterward, while descending the stairs, without falling, stepping down with the sound leg forward, he fractured the patella which had been broken. Previous to the accident Dr. Stimson had noticed what seemed to be one of the wire sutures, which could be felt under the skin, and the patient had felt a slight pricking pain at that point throughout the progress of the case. In the second fracture the old cicatrix was torn open. Dr. Stimson enlarged the wound and found that the second fracture had taken place exactly in the line of the first; one wire was entirely, the other almost entirely, loose in the wound, and the site of each was marked by small cavities in the fragments. The surfaces of fracture were not so rough as usual, and Dr. Stimson thought that union had taken place, in part at least, by a very thin intermediate layer of fibrous tissue. On the inner corner of the upper fragment, where in the first fracture there had been a small loss of tissue, there was a distinct fibrous band as large as his little finger. On wiping out the blood he saw a membrane of new formation underlying the patella and entirely separating the fracture from the cavity of the joint, except at one point where it was torn for half an inch; through this opening he was able to see false membranes within the joint connecting the condyles of the femur with the tibial head. He cleansed the wound, brought the fragments together with catgut, closed the wound, and the patient is now well. The fragments have again united, and there is some motion in the joint. It is now two months since the second fracture.

The reason Dr. Stimson reported the case is because he saw not long ago the statement that there was no case known where any membranes of new formation had formed in the joint after wiring the patella for simple fracture. But this joint was full of them, and they had formed without any inflammatory reaction, or any symptoms indicating these formations.

Again, it has been claimed that a patient with a fracture of the patella, treated by wiring, can be dismissed cured at the end of four weeks. Dr. Stimson did not know of any other similar fracture which is perfectly sound at the end of so short a period of time; but here is a case in which two and a half months have elapsed since the fracture, which has done well, and which, if reported two or three months ago, at the stage at which most cases have been reported, would probably have been cited as another example of the safety and value of the method of treating by wiring; and yet the union proved to be not strong enough to bear the weight of the body in descending stairs, and the joint did not allow of more than twenty or thirty degrees flexion.

DR. BRIDDON asked whether catgut had been used for this purpose before.

DR. STIMSON said he had used it in operations upon joints several times. He thought it would last probably three weeks.

DR. W. T. BULL asked, What is the ultimate prospect, so far as motion is concerned, in this joint?

DR. STIMSON answered that it is poor.

DR. BULL asked whether that is not the average in all cases in which the patella is wired.

DR. STIMSON said he had not seen good motion in any case, but it had been reported that the operation gave good motion.

DR. POST asked, when the choice is between a stiff and a weak joint, whether the stiff joint is not to be selected.

DR. BULL thought it is.

THE PRESIDENT said, Is it not true, also, that, after fracture treated by the ordinary method, better results are obtained than in the joint of the patient presented?

DR. STIMSON replied that a good deal better result was obtained.

TUBERCULAR DISEASE OF THE TARSUS; RESECTION OF ASTRAGALUS AND SCAPHOID BONES.

DR. W. T. BULL presented a young woman, in order to show the result of an operation which was performed eighteen months ago. She presented herself at the New York Hospital on the 17th of March, 1884, with the history that she had been in somewhat delicate health, having had cough, but no hæmoptysis. Seven weeks before admission she complained of lameness in the right foot, and inability to walk without considerable pain. The motions of the ankle were nearly perfect. The only evidences of disease of the bones of the tarsus were a decided tenderness over the scaphoid, and a slight swelling below the ankle; and, besides, there was atrophy of the calf upon that side to the extent of being one inch smaller than its fellow. For seven weeks the foot was treated with plaster-of-Paris splint and applications of oleate of mercury, thermo-cautery, belladonna liniment, etc., without improvement. Dr. Bull then made an incision upon either side of the ankle and removed the astragalus and scaphoid bones. He did not detect any indications of tubercular disease of the synovial membrane, but the bones were softened. They were removed entirely with knife and scissors. The wounds healed promptly, with the exception of the sinuses left by the drainage tubes, which were somewhat slow in closing. In about a month she was able to walk about and bear some weight upon the foot, but it was with considerable pain. Five months later he discovered a good deal of tenderness over the os calcis and suspected similar disease of that bone; and, although the motions within the ankle-joint were quite good, he introduced a drill by means of the dental engine into both malleoli and also into the os calcis. In the former he found no evidence of disease, but in the latter he found a soft spot which he drilled out and treated with iodoform, and it healed promptly. This operation was performed eight months after the first one, and since that time the pain in the ankle and foot has gradually disappeared. Now the functions of the foot seem to be perfectly performed, and the only deformity is a shortening of the foot by about one inch. The calf of the leg has increased in size until it is only one-half an inch smaller than the other.

Unfortunately, to make the diagnosis positive, the bones were lost, and therefore not examined for micro-organisms; and, although they did not present to the naked eye any of the characteristic appearances of tubercular lesion, Dr. Bull felt warranted in believing that the disease was of that nature.

It may be remembered that, at the meeting of the Society last spring, he presented a patient, an Italian, from whom he had removed the entire tarsus for tubercular osteitis, and the result did not seem to be satisfactory, as the man experienced some pain in walking. His condition has improved materially since that time, and he is able to do all sorts of active work without discomfort.

DR. H. B. SANDS thought that the results in cases of excision of the tarsal bones are usually better than may be anticipated; and the observation made by Dr. Bull, that the patients continue to improve for a considerable period after the operation accorded with his own experience. In cases of tubercular disease of the joints in which operations for the removal of a diseased bone are performed by means of a sharp spoon, he supposed that frequently a sufficient amount of periosteum is left to reproduce, to a considerable extent, the bone removed, and in this manner to contribute to the stability of the foot. He had repeatedly noticed, after dealing with the tarsal bones, and also after removal of the carpal bones, that, although a large portion of osseous tissue was removed, after the lapse of six months or a year, the parts become so firm that one could hardly believe that such an amount of bone had been taken away.

DR. C. T. POORE, in cases occurring in children where he had endeavored to remove the os calcis and leave a portion of the bone with the periosteum, had subsequently been obliged to remove the entire bone because of non-closure of the wound, and because the disease was extending to other bones. In one case he was certain that he left the anterior portion of the bone undisturbed. Eight or nine months after the first operation he found the cavity, as it were, of the os calcis filled with dense fibrous tissue. In children he had not been able to save any of the bone, but had removed everything, and the results had been very good.

CORRESPONDENCE.

THE REPORT OF THE MEETING OF THE COMMITTEE ON THE INTERNATIONAL MEDICAL CONGRESS.

To the Editor of THE MEDICAL NEWS.

SIR: My attention has just been called to a criticism in the *Association Journal* of October 31st, by an officer of the ex-Committee of Arrangements for the International Medical Congress, of a letter of my own, which appeared in your issue of October 10th.

The effort reminds me so much of a cobbler striving to patch with flimsy material his originally bad work, that I might complacently afford to stand in my old shoes. But for the benefit of my professional brethren, who may, through inadvertence, be deceived, I will notice only the two points in the criticism which may seem to affect my position. My letter stands as the public record of my action in the Committee.

1. I am accused of having "persistently endeavored to obstruct the proceedings of the Committee" (at the meeting in New York, on the 3d and 4th of September), "by frittering away valuable time with trivial objections." These objections of my own are on record, and need not be defended. No doubt they were annoying to some. But the author of the complaint has inadvertently paid me a very great compliment, for which I am grateful. To "obstruct proceedings" which I have shown to be irregular and prearranged by certain parties to advance their special ends, regardless of the unity, harmony, and well-being of the profession, can only be regarded by proper thinking persons as a meritorious act.

2. Next it is stated that I complained that "a letter which he (I) forwarded to the Temporary Secretary was not read before the meeting of the Committee in Chicago, or embodied in the report which was recently published." My letter is referred to as on a par with two hundred letters received from other parties (not members of the Committee), to have read all of which would have occupied the entire day. The Committee, it is stated, only directed that a letter from Dr. Austin Flint, Sr., should be read.

The above is not a correct statement of facts. I was, together with Dr. Austin Flint, a member of the Committee of Arrangements, and did not, therefore, occupy the same position with two hundred persons who may also have written letters, but who were outside of the Committee. I had, therefore, equal right with Dr. Flint. As a member of the Committee, unable to attend the Chicago meeting, I sent my letter addressed to both the Chairman and Secretary, waiving the fact that they had usurped their positions. I had an equal, if not a better right than Dr. Flint to express my views by letter. He was represented by a proxy. After this proxy took his seat in the Committee, Dr. Flint was, for the time being, not a member of the Committee. But, further, the proxy was there to step in as a permanent member of the Committee when Dr. Flint, in accordance with previous arrangement, stepped out. Possibly, as I was not connected with this or any other previously arranged programme, my letter was unimportant, and Dr. Flint's alone was accorded a reading. Had I occupied a like distinguished position in the eyes of the managers, or been as available for promotion from the ranks of the Committee to the highest office in the Congress, I might have been accorded equal rights with my illustrious friend.

Still, I am satisfied with my present humility, and would not exchange this for the highest office bestowed by the Committee.

No further rejoinder from the same source will induce me, Mr. Editor, to trespass again on your columns.

R. A. KINLOCH,
Member of Committee from South Carolina.

CHARLESTON, Nov. 7, 1885.

NEWS ITEMS.

WASHINGTON.

(From our Special Correspondent.)

CHOLERA IN SHANGHAI.—The U. S. Vice-Consul-General at Shanghai, China, informs the Department of State, under date of September 10, 1885, that at his re-

quest Dr. Neill Macleod has furnished him with the following information:

"During the last week in August, the deaths from cholera in the English and American settlements are reported to have been 96 amongst the Chinese. The returns for September have not been sent in, but I think the number is not probably less. The deaths among foreigners have not yet, I believe, exceeded 10. We have no means of determining the number of cases."

The Vice-Consul is advised by the Superintendent of Police, and by the Chinese officials, that in the native (old) city of Shanghai and its suburbs, with an estimated population of over 300,000, which is not referred to in Dr. Macleod's communication, the cases of cholera are exceedingly numerous, but no statistics are obtainable.

He says the walled city of Shanghai is the filthiest city he has ever visited. Old residents of China have informed him, that it is considered to be at the head of the list of Chinese cities, so far as filth and vile smells are concerned. A few days ago, he says, he made a tour of inspection through the city, and found vegetable and animal garbage festering on every hand. All human excrement is carried out of the city, to be used in fertilizing the fields, and as it is carried through the streets in open buckets, the air is constantly charged with vile odors, and besides this, numerous public latrines are scattered about, and the temporary occupants are in full view of passers-by. The latrines are rudely constructed, and no attempt made to disinfect them, and there is no doubt that they are the direct cause of a great amount of sickness. The streets are narrow, and the dwellings low and damp. The Vice-Consul-General thinks the only wonder is, that the mortality is not greater than it is.

MONTREAL.

(*From our Special Correspondent.*)

THE SMALLPOX.—During the last few days the daily mortality from this disease has fallen from 50 to 40. The isolation committee is doing good work and all houses and tenements where smallpox cases are found are carefully guarded. Where isolation is impossible, the patients are removed to hospitals. The patients as a rule go quietly, but if they refuse, force is used. A few days ago it took the Mayor and fifty policemen to remove two cases from a house defended by a father and son with shotguns and revolvers; the cases were successfully removed without any mishap. For this action the Mayor was much abused by the French papers. The new hospital is already full and more hospital accomodation is being provided; vaccination is still hanging fire, and the great mass of people in the east end still remain unvaccinated, preferring death from smallpox to dishonor from vaccination.

The deaths during October in Montreal and suburbs have been 1630 in number; of these 1599 were Catholics and 31 Protestants. The Catholics were mainly French, the mortality amongst the Irish Catholics (who are well protected by vaccination) not being more than amongst the Protestants. Since the commencement of the epidemic there have been 2641 deaths from smallpox.

A GERMAN OPINION OF THE CONGRESS IMBROGLIO.—It is known that the invitation of the American medical profession, extended by Dr. Billings, Surgeon U. S. Army, at Copenhagen, last year, was accepted. The Committee of Organization consisted of Drs. Austin Flint, of New York, President; J. S. Billings, of Washington, Secretary-General; I. Minis Hays, of Philadelphia; Lewis A. Sayre, of New York; Christopher Johnston, of Baltimore; George Englemann, of St. Louis; A. Jacobi, of New York; and other prominent members of the medical profession in the United States. These gentlemen set about their work with great zeal, put in motion the organization extremely difficult to arrange, named the several secretaries and other officers, and distributed in April of the present year a pamphlet in which the rules regulating the organization of the Congress and all facts of special interest relative to it were set forth. From this the impression was gained that the profession in its entirety would be represented in the Congress, as a national body, which should include all medical societies and bodies with common and special aims.

Now, while the gentlemen composing the original Committee were chosen from the American Medical Association and entrusted with proper powers, it happened at the meeting of this Association, held this year at New Orleans, certain intriguers and office-seekers, at the head of which was Dr. Shoemaker, of Philadelphia, set aside the regulations adopted by the original Committee, and named a new Committee, more numerous and containing a part of the old Committee, and representative only in a territorial point of view. In order to understand this step, it must be recognized that the American Medical Association, especially those who in it exercise the greatest authority, lay especial stress upon geographical representation—*i. e.*, that on all special occasions each of the separate States shall have equal representation; and, further, that the American profession is divided into two great parties, representing, respectively, the old and the new Code of Ethics, which differ, especially in the regulations relative to irregular practitioners, the old code maintaining a strict, the new a lax, stand toward them.

As the original Committee did not conform their action to the demands for territorial representation, or act wholly in the interests of the old and stricter code, it came to pass, through the skilful use of both these levers, that the above step was taken—*i. e.*, the organization of a new Committee. Naturally, the old Committee resigned.

It has been repeatedly said, and we, ourselves, hold the opinion, that scarcely a prominent member of the German profession can be found who would be willing to go to America to sit under the presidency of Dr. Shoemaker, and participate in a disintegrated and destroyed Congress. The old Committee, part of which is personally known to and respected by us, has our entire support. If we, hitherto, have refrained from noticing this family embroglio, it was in the hope it would finally be righted in a manner satisfactory to all.

Indeed, even now it does not seem too late for this to be accomplished. Next spring the American Medical Association again meets. Let it do so with the understanding that it is no disgrace, and never too late, to recognize and rectify a wrong, and to bestow upon the original Committee a vote of confidence, and restore them to authority. We are convinced from the high

position and zeal of these gentlemen, that they would rise above the wrong done to them; but, on the other hand, we have every reason to assume that under the existing conditions the Congress will be a total failure.—*Berliner klin. Wochenschrift*, October 26, 1885.

AN ENGLISH OPINION OF THE CONGRESS CONTROVERSY.—Those of our English readers who have followed with painful interest the course of the struggle now in progress in America with regard to the Washington Medical Congress of 1877, will be amused to hear that the new executive committee of the Congress have resolved that their actions "*are final, not being subject to revision, amendment, or alteration by either the Committee of Arrangements or the American Medical Association.*" The astuteness of that resolution is as remarkable as the irony of it is delicious. If the original committee had only been wise enough, before the event, to have adopted such a decision, there would have been none of the dissensions which have so terribly distracted the American profession. The resolution is at once a slap in the face to the American Medical Association and a sneer at the original committee of eight, as if to say, "Why, what idiots you were, not to have thought of this!" And yet it is at the same time a score to the original committee and its supporters in that it is a justification of their action in resenting the interference of the Association with their decisions.

Meanwhile we hear affairs are *in statu quo*. The resignation of Dr. Dalton, the Chairman of the Physiological Section, which has happened since we last wrote on the subject, leaves the organization of the Congress without a single really scientific representative if we except the Flints and Dr. N. S. Davis. If the meeting is held, the Sections of Anatomy, Physiology, and Pathology will not be attended by any of the American workers in those fields. There is, we fear, little hope now of an arrangement. All the prominent American men of science have withdrawn, and will not return unless very considerable concessions are made, of which there appears no hope.

The *Berliner klinishche Wochenschrift* this week roundly states that hardly a single "medical personage" will be found to undertake the voyage from Germany for the privilege of sitting under the presidency of Dr. Shoemaker. It makes, however, a strong appeal to the American Medical Association to approach the subject in a more wise and generous spirit when its next Spring assembly takes place, and to rearrange its propositions in such a manner that the services of the leaders who were nominated in the first instance may still be made available. In the absence of such a rearrangement, our Berlin contemporary expresses a decided opinion, which we can heartily endorse, that the Congress of 1887 will be foredoomed to dismal failure. The whole thing is a bad business. It is an awkward position, for it must be remembered that the Washington Congress will have to make arrangements for the succeeding meeting. Suppose Dr. Shoemaker and his friends decide that the Congress of 1890 shall be held in Texas.—*Medical Times and Gazette*, October 31, 1885.

HOME OPINION ON THE CONGRESS ORGANIZATION.—That the Association had full power to revise the work of its committee we feel assured. This prerogative still exists, notwithstanding the rather singular assumption by the Executive Committee of the Committee of Arrangements, that its action was final, "not subject to revision, amendment, or alteration, either by the Committee of Arrangements or the American Medical Association." We would quote from an editorial in the Association Journal of June 6th: "The idea that the powers and duties enjoined upon a committee of arrangements, appointed by a permanently organized association, are in the nature of *vested rights* by which such committee becomes an independent body, self-perpetuating, and responsible to no one, has not hitherto been widely entertained in this country." This action cannot have the support of the Committee of Arrangements, which still holds to the idea of its responsibility to the Association.—*Mississippi Valley Medical Monthly*.

Probably one most startling event in the whole history of this most miserably bungled affair is the resolution passed by the Executive Committee appointed by the Committee of Arrangements two months ago. We certainly admire this bold piece of policy on the part of the Executive Committee, but hardly find it consistent with the opinion which the American Medical Association obtained from Ex-Speaker Randall, and with which they sought to justify their action at New Orleans: ". . . The theory that a select committee, created by a body with certain defined powers and duties, gives any *vested rights*, so to speak, which place it above or beyond the power of the creating body to review or regulate, is one not only without precedent in parliamentary law, but is untenable on any ground of parliamentary principle."

Here we have a committee declaring itself to be irresponsible, a servant without a master. This combination calmly asserts that it is going to do the work, and that the Congress and profession generally will accept and approve of that work, whether they like it or not. Out in California we have had some experience of Vigilance Committees in troublous times, who were invested by the citizens with full power to use all means to quell the disturbance, and this is the only irresponsible committee known in this State. Possibly this Executive Committee is of that nature.—*Pacific Medical and Surgical Journal*.

HOW SMALLPOX HAS BEEN INTRODUCED INTO THE UNITED STATES FROM CANADA.—The Secretary of the State Board of Health of Michigan, in a circular letter to the Health Inspectors of Travel, says: About August 6, 1885, a French-Canadian family, consisting of the mother and six children, passed through Port Huron from Montreal to Marinette, Wisconsin. They met with no detention at Port Huron, or at any point through Michigan, Illinois, or Wisconsin, as it was before the present system of inspection was established. From this family resulted eighteen cases of smallpox, with four deaths. The outbreak was promptly suppressed by the health authorities at Marinette.

Another French family, named Picher, left their home near Montreal, September 22, 1885, were detained at Detroit, "examined, fumigated, and vaccinated." The family consisted of father, mother, and seven children. They passed Detroit, September 23d, and reached their destination near Coleman, in the Township of Peshtigo, Wisconsin, on the night of September 24th. About a

week after their arrival in Wisconsin, four of the children were taken sick with smallpox, but it was not discovered until a large number had been exposed. I am informed by J. J. Sherman, M.D., health officer at Marinette, Wis., that "the vaccination at Detroit was complete and effective on three, and greatly modified the attack on the other four."

Dr. Sherman, writing October 30, 1885, in regard to these cases, says: "Of course it does the immigrant good to vaccinate, and no doubt prevents the spread of smallpox altogether in many cases, . . . only I do think that immigrants from infected districts should be held, when they have not been vaccinated or had smallpox until the vaccination gives evidence of working, or until it is morally certain that the disease is not in the incubative stage; and, if possible, notices forwarded to health officers of the towns to which they are going, that they may be kept under surveillance until all danger of contagion is passed."

THE INTERNATIONAL CONGRESS AND COLLECTIVE INVESTIGATION OF DISEASE.—The preliminaries for this investigation are, as announced from London, so far advanced, that inquiry lists will shortly be ready for transmission. These will again be collected at the close of 1886, and the materials put in such shape that the results of the investigations may be communicated to the next meeting of the International Medical Congress.

MEDICAL DISPENSARY SERVICE FOR THE INSANE POOR OF PHILADELPHIA.—At a recent meeting of the Managers of the Pennsylvania Hospital, it was determined to add to their Outpatient Department, on Spruce Street, near Ninth, a medical service for the purpose of furnishing advice and treatment to persons suffering from the early or incipient symptoms of insanity, but who may not require the custodial care of a hospital. Cases of chronic or established insanity will not be received.

The service is designed for the benefit of persons in indigent circumstances, and for the present will be rendered by the physicians of the Department for the Insane of the Pennsylvania Hospital. Dr. Henry M. Wetherill will be in attendance at the Outpatien Department on Monday and Friday of each week, at 3 P. M., during November and December, commencing November 2.

CINCINNATI COLLEGE OF MEDICINE AND SURGERY.—Dr. Charles E. Caldwell has been elected Lecturer on General Pathology in this institution.

OBITUARY RECORD.—DR. WILLIAM BENJAMIN CARPENTER. The death of this eminent English physiologist is announced by a cable from London last Tuesday.

Dr. Carpenter was born in Exeter, October 29, 1813. In 1834, yielding to the desire of his family that he should study medicine, he went to London, where he pursued his studies at University College and Middlesex Hospital, and there, while attending the lectures of Dr. Grant on comparative anatomy, he laid the foundation for his works on physiology, by which he is most widely known.

Passing his examination at the College of Surgeons and Apothecaries' Hall, he went, in 1835, to Edinburgh to pursue his professional studies, and while there was elected the first of the four annual Presidents of the Royal Medical Society. Shortly afterward he accepted the lecturership on medical jurisprudence in the British Medical School, and about this time he began to write his now universally known treatise on *General and Comparative Physiology*, the first edition of which appeared in 1838.

Dr. Carpenter's natural bent leading him rather to the scientific than to the practical aspects of medicine, he now resolved to devote himself wholly to the study of physiology, lecturing, private tuition, and writing, and henceforth he was known not only as a systematizer of the works of others, but as an independent, original, and scientific investigator.

Dr. Carpenter was at one time Editor of the *British and Foreign Medico-Chirurgical Review*, and contributed articles to that journal on a wide range of subjects.

Besides his treatise on physiology, Dr. Carpenter produced numerous other scientific works, among which are a study of the Australian and Philippine *Foraminifera*, discussions of the phenomena of mesmerism, hypnotism, and *The Microscope and its Revelations*.

Later in life he was occupied in investigations connected with the deep sea dredging expeditions.

Dr. Carpenter's death occurred as the result of an unfortunate accident, and was due to burns caused by the upsetting of a spirit lamp, while he was taking a vapor bath for rheumatism, to which he had long been subject.

NOTES AND QUERIES.

A LONG UMBILICAL CORD.

To the Editor of THE MEDICAL NEWS.

SIR: As a matter of perhaps some statistical interest, I wish to place upon record the measurement of an umbilical cord at full term, which exceeds in length any previous published contribution upon the subject of which I have any knowledge. It measured three feet and four inches, and, but for the fact that it encircled the child's neck twice and body once, I should probably have had a case of umbilical hernia to contend with. Respectfully,

A. H. GARNETT, M.D.

OSWEGO, KANSAS, Nov. 2, 1885.

CASE OF TOTAL ABSENCE OF VAGINA.

The case of total absence of vagina noticed in our issue of last week, page 515, was under the care of Dr. Joseph Eastman, of Indianapolis, Indiana, and the case is still under his observation.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U. S. ARMY, FROM NOVEMBER 3 TO NOVEMBER 9, 1885.

MCCLELLAN, ELY, *Major and Surgeon.*—Leave of absence granted in orders, Cavalry Depot, Jefferson Barracks, Missouri, October 30, is extended seven days.—*S. O. 254, A. G. O.*, November 4, 1885.

KANE, JNO. J., *Captain and Assistant Surgeon.*—Ordered for duty as Post Surgeon, Fort Ringgold, Texas.—*S. O. 141, Department of Texas*, November 4, 1885.

EBERT, A. G., *Captain and Assistant Surgeon.*—Ordered from Camp Grant, Riverside Park, New York City, to Fort Hamilton, New York Harbor, for duty.—*S. O. 237, Department of the East*, November 5, 1885.

BUSHNELL, G. E., *First Lieutenant and Assistant Surgeon.*—Assigned to duty at Camp Grant, Riverside Park, New York City.—*S. O. 237, Department of the East*, November 5, 1885.